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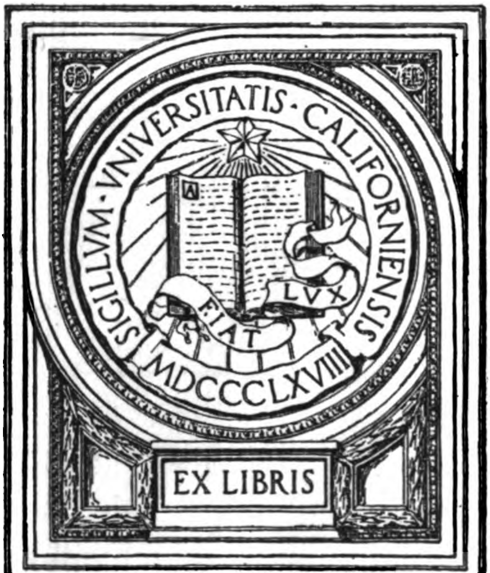
Report / Maryland State Horticultural Society



UNIVERSITY FARM

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Field Investigations in Pomology
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MAR [illegible] 1907
Answered: ....

E. P. COHILL

Hancock, Maryland

President of the Society for 1906

Mr. Cohill was born Dec. 3, 1855, at Elmira, N. Y. He attended public schools and in 1872-4 a business night school, while a clerk with the chief engineer of the Penn. Canal Co., at Harrisburg, Pa. In 1874 he became private secretary to the manager of the Empire Transportation Company at Philadelphia, and was soon their cashier at Baltimore, Maryland.

Mr. Cohill began independently in 1876 the manufacture of sumac and his present very successful mercantile business at Hancock, Md., and this year married his charming and industrious wife, of whom nothing too good can be said. A happy family of sons and daughters ably support his many endeavors. His assistance in organizing, in 1885, the company to build the $40,000 Potomac River Bridge, at Hancock, of which he has since been treasurer, and in 1898 the Hancock Bank, being six years its president, and in 1905 the First National Bank of Hancock, of which he is Vice-President, and his appointment as School Commissioner of Washington County in 1899 and reappointment for six years in 1905, show his importance to the community.

Convinced for years of the success of properly conducted orcharding with the great advantages of this vicinity, in 1904 he organized the Tonoloway Orchard Company, capital stock $75,000, and 750 acres now planted in 38,000 apple and 7,100 peach and pear trees. Mr. Cohill is its president. He also owns several rapidly developing orchards.

Mr. Cohill, though an apple specialist, is an enthusiastic grower of other fruits, a close observer, and a most up-to-date progressive horticulturist, highly esteemed by all who know him, and for several years an active supporter of our Society. A few years, we predict, will find him the Apple King of Maryland.

Edmund P. Cohill

REPORT

OF THE

Maryland
State Horticultural Society

SUMMER MEETING

Held at Berlin, Maryland, August Eighth and Ninth

AND

NINTH ANNUAL MEETING

Held in the Fifth Regiment Armory, Baltimore, Maryland
December Fifth and Sixth
1906

INCORPORATED 1900

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VOLUME IX, FOR THE YEAR 1906

Published by the Society March, 1907

EDITED BY THOMAS B. SYMONS, SECRETARY, COLLEGE PARK, MD.

LETTER OF TRANSMITTAL.

To His Excellency, Edwin Warfield,
Governor of Maryland.

Sir:—I herewith transmit to you, as directed by the act incorporating the Maryland State Horticultural Society, this report for the year 1906, which contains a detailed statement of the receipts and expenditures of the Society, as approved by the Executive Board, and the transactions of the summer meeting at Berlin, Maryland, and the ninth annual meeting in Baltimore, Maryland. I trust that an inspection of its contents will convince you that the funds appropriated to the Society for developing and fostering the horticultural interests of the State have been wisely and judiciously expended.

Respectfully submitted,

Thomas B. Symons,
Secretary-Treasurer.

College Park, Maryland,
March 20, 1907.

17086

OFFICERS FOR 1907

Executive Board.

President, Orlando Harrison	Berlin
Vice-President, C. L. Seybold	Baltimore
Secretary-Treasurer, T. B. Symons	College Park
President Peninsula Horticultural Society, W. F. Allen	Salisbury
E. P. Cohill	Hancock
J. W. Kerr	Denton

County Vice-Presidents.

Allegany	R. H. Gordon	Cumberland
Anne Arundel	J. S. Linthicum	Wellhams
Baltimore	Richard Vincent, Jr	Whitemarsh
Calvert	F. O. Smith	Dunkirk
Caroline	J. S. Lapham	Goldsboro
Carroll	Henry Fuss	Union Bridge
Cecil	M. C. Reeder	Rising Sun
Charles	W. H. Gray	Port Tobacco
Dorchester	T. Harry Hopkins	Cambridge
Frederick	D. H. Hargett	Frederick
Garrett	W. McCulloh Brown	Oakland
Harford	L. E. Hollingsworth	Joppa
Howard	W. S. Powell	Ellicott City
Kent	J. S. Harris	Coleman
Montgomery	R. Bentley Thomas	Sandy Spring
Prince George	Dr. E. P. Magruder	Glendale
Queen Anne	W. Irving Walker	Millington
St. Mary	Geo. F. Wathen	Loveville
Somerset	F. E. Matthews	Pocomoke City
Talbot	Dr. Chas. Lowndes	Easton
Washington	A. L. Towson	Smithsburg
Wicomico	W. F. Allen	Salisbury
Worchester	C. M. Peters	Snow Hill

STANDING COMMITTEES, 1907

APPOINTED BY THE PRESIDENT.

ORCHARDS.

C. P. Close, Chairman, College Park.
R. Alra B. Trigg, Cumberland.
J. S. Harris, Coleman.

VINEYARDS.

J. Spencer Lapham, Chairman, Goldsboro.
C. M. Peters, Snow Hill.
Jerome A. Davis, Goldsboro.

STONE FRUITS.

A. L. Towson, Chairman, Smithsburg.
R. C. Peters, Ironshire.
A. J. Wilson, Easton.

SMALL FRUITS.

W. F. Allen, Chairman, Salisbury.
H. S. Tydings, Annapolis.
Frank Matthews, Pocomoke.

VEGETABLES.

Thos. H. White, Chairman, College Park.
John Snowden, Beltsville.
Frank Corckran, Galena.

FLOWERS.

E. A. Seidwitz, Chairman, Baltimore.
H. P. Weber, Oakland.
R. Vincent, Jr., Whitemarsh.

ORNAMENTALS.

Geo. Morrison, Chairman, Baltimore.
Chas. L. Seybold, Baltimore.
Jos. Davis, Baltimore.

ENTOMOLOGY.

T. B. Symons, Chairman, College Park.
G. P. Weldon, College Park.

ORNITHOLOGY.

F. E. L. Beal, Chairman, Washington, D. C.
W. J. Tyler, Baltimore.

BOTANY.

Chas. McIlvaine, Chairman, Cambridge.
Forest Shreve, Baltimore.
J. B. S. Norton, College Park.

PLANT PATHOLOGY.

J. B. S. Norton, Chairman, College Park.
E. P. Walls, College.

NOMENCLATURE.

W. N. Irwin, Chairman, Washington, D. C.
C. P. Close, College.

NEW FRUITS.

J. W. Kerr, Chairman, Denton.
Jef. Stayton, Salisbury.
Jas. S. Harris, Coleman.

PACKING, STORING AND MARKETING FRUITS.

D. B. Stewart, Chairman, Baltimore.
L. C. Barston, Smithsburg.
W. G. Dawson, Cambridge.

TRANSPORTATION.

E. P. Cohill, Chairman, Hancock.
M. C. Reeder, Rising Sun.
Alex. McCormick, Fullerton.

SPECIAL MEMBERSHIP LIST

LIFE MEMBER.

Prof. W. G. Johnson, 52 Lafayette Place, New York City.

HONORARY MEMBERS.

Prof. L. H. Bailey..Ithaca, N. Y.
Dr. John J. Black..Newcastle, Del.
J. H. Hale...Glastonbury, Conn.
Roland Morrill...Benton Harbor, Mich.
Wm. A. Taylor, Department of Agriculture..............Washington, D. C.
M. B. Waite, Department of Agriculture.................Washington, D. C.
H. E. Van Deman..Washington, D. C.
F. A. Waugh...Amherst, Mass.
H. J. Webber..Cornell University, Ithaca, N. Y.
Adelaide Stoddard Hero.......................................Garden City, N. Y.
H. W. Ridgway..Swedesboro, N. J.
W. B. Alwood..Charlottesville, Va.

The Society now has on its roll book the names of approximately 2,500 members.

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ACT OF INCORPORATION.

AN ACT to incorporate the Maryland State Horticultural Society and to appropriate a sum of money therefor.

Section 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That the members of the Maryland State Horticultural Society be and they are hereby incorporated under the name and style of "The Maryland State Horticultural Society," and by that name shall have perpetual succession, sue and be sued, plead and be impleaded in any court of law or equity whatsoever, and may have and use a common seal, and the same alter at pleasure.

Sec. 2. The affairs of the corporation shall be managed by an executive board, consisting of the president, first vice-president and secretary of the society, the president of the Western Md. Horticultural Society, and the president or first vice-president, representing the State of Maryland, as the case may be, of the Peninsula Horticultural Society, and that said officers now elect shall be the first members of the executive board created by this Act, and shall hold their offices until their successors are duly elected in conformity with the respective constitutions of the said societies.

Sec. 3. The said executive board shall have sole care and disposal of all funds appropriated by the Legislature of Maryland for the Maryland State Horticultural Society, and shall expend the same in such a manner as will, in their judgment, best promote the development of the horticultural interests of the State of Maryland. They shall render annually to the Governor of the State a detailed statement of all funds received from the State and all other sources, and also of all expenditures made by them and the specific objects for which sums were expended. They shall make no appropriation unless they have funds on hand to meet the same. The members of the said board shall be jointly and severally liable for the payment of any debt created by the board in the absence of funds in the treasury to meet such obligation; nor in any event shall a debt be contracted except by the concurrent vote of the members of said board, which number shall constitute a quorum for the transaction of business.

Sec. 4. The executive board shall, through the secretary of the society, render to the Governor of the State an annual report of its transactions, published at the expense of the society, which publication shall include the annual reports of the State Entomologist and State Pathologist, together with such other papers as said board shall deem of value to horticulture and its allied branches.

Sec. 5. The Maryland State Horticultural Society shall have power to adopt and enforce any by-laws and rules not in conflict with the Constitution and laws of this State.

Sec. 6. For the purpose of carrying out the provisions of this Act, and to aid in the development and conservation of horticulture in Maryland, the sum of one thousand dollars is hereby appropriated, and the same amount annually thereafter; and the Comptroller of the Treasury is hereby authorized and directed to issue his warrant annually upon the State Treasurer for the said sum of one thousand dollars, to be paid out of any funds in the Treasury not otherwise appropriated, to the treasurer of the Maryland State Horticultural Society, who shall give bond in double the amount of the fund he is expected to handle, executed to the said society, with two or more sureties, or secured by a trust or surety company, qualifying before a notary public as to their sufficiency as bondsman or surety, the said society shall pay the cost of obtaining this security.

Sec. 7. The first annual payment of one thousand dollars shall be made to the treasurer of the society during the first fiscal year ending September 30, 1900, and annually thereafter on or before the first day of October in each year.

Sec. 8. This Act shall take effect from the date of its passage.

APPROVED April 5, 1900.

An Act to repeal and enact with amendments Sections 2, 3, 6, and 7 of Chapter 215 of the Acts of the General Assembly of Maryland 1900, entitled an Act to incorporate the Maryland State Horticultural Society and to appropriate a sum of money therefor.

SECTION 1. Be it enacted by the General Assembly of Maryland, That Sections 2; 3, 6, and 7 of Chapter 215 of the Acts of the General Assembly of Maryland of 1900, entitled an Act to incorporate the Maryland State Horticultural Society, and to appropriate a sum of money therefor, be and the same are hereby repealed and re-enacted so as to read as follows:

SEC. 2. The affairs of the Corporation shall be managed by an Executive Board consisting of the president, first vice-president and secretary of the society. The president or first vice-president representing the State of Maryland, as the case may be, of the Peninsula Horticultural Society, and three members of the Maryland State Horticultural Society elected by the society, who shall hold their offices until their successors are duly elected by the in-conformity with the respective constitutions of said societies, and the existing board shall remain in office until the next regular election of an executive board.

SEC. 3. The said executive board shall have sole care and disposal of all funds appropriated by the Maryland Legislature, for the Maryland State Horticultural Society, and shall expend the same in such manner as will in their judgment best promote the development of the horticultural interests of Maryland. They shall render annually to the Governor of the State a detailed statement of all funds received from the State or elsewhere, and also of all expenditures made by them and the specific objects for which said sums were expended. They shall make no appropriation unless they have funds on hand to meet the same. The members of said board shall be jointly and severally liable for the payment of any debt created by the board, and in the absence of funds in the treasury to meet such obligations; nor in any event shall any debt be contracted except by a majority of the vote of said board, which majority shall constitute a quorum for the transaction of business.

SEC. 6. For the purpose of carrying out the provisions of this Act, and to aid in the development and conservation of horticulture in Maryland, the sum of two thousand dollars is hereby appropriated and the same amount annually thereafter; and the Comptroller of the Treasury is hereby authorized to issue his warrant annually upon the State Treasurer for the said sum of two thousand dollars, to be paid out of any funds in the Treasury not otherwise appropriated, to the Treasurer of the Maryland State Horticultural Society, who shall give bond in double the amount of the fund he is expected to handle executed to the said society, with two or more sureties, or secured by a trust and surety company, qualifying before a notary public as to their sufficiency as bondsmen or surety, and the said society shall pay the cost of obtaining this surety.

SEC. 7. The first annual payment of two thousand dollars shall be made to the treasurer of the society during fiscal year ending September 30, 1906, and annually thereafter on or before the first day of October in each year.

SEC. 8. And be it enacted, That this Act shall take effect from the date of its passage.

Approved April 9th, 1906.

CONSTITUTION AND BY-LAWS.

CONSTITUTION.

Revised at Fourth Annual Meeting.

ARTICLE I. This Association shall be known as The Maryland State Horticultural Society. Its object shall be the promotion of horticulture in all its branches.

ARTICLE II. Any person may become a member of this Society by signing the roll of the Society, or by presenting his or her name to the Secretary, who is thereupon authorized to add the name of said applicant to the roll of the Society.

ARTICLE III. The officers of this Society shall consist of a President, Vice-President and a Vice-President from each County in the State, and a Secretary-Treasurer, who shall be elected by ballot at each regular December meeting, and whose term of office shall begin on the first day of January following their election.

ARTICLE IV. The executive officers of this Society shall constitute an executive committee, at any meeting of which a majority of the members shall have power to transact business. The other duties of the officers shall be such as usually pertain to the same officers of similar organizations.

ARTICLE V. The regular meetings of this Society shall be held beginning the first Wednesday in December, except when otherwise ordered by the Executive Committee.

ARTICLE VI. As soon after each regular annual meeting as possible, the President shall appoint the following standing committees and they shall be required to give a report in writing, under their respective heads, at the annual meetings of the Society, of what transpired during the year of interest to the Society: Orchards, vineyards, stone fruits, small fruits, vegetables, flowers, ornamentals, entomology, ornithology, botany, plant pathology, nomenclature, new fruits, packing, storing and marketing fruits and transportation.

ARTICLE VII. The Treasurer shall give bond in twice the sum he is expected to handle, executed in trust to the President of this Society (forfeiture to be to this Society) with two or more sureties or a trust and surety company, qualifying before a notary public of their qualifications as bondsmen, as is provided by the statute concerning securities, and this Society shall pay the cost of obtaining this insurance or surety.

ARTICLE VIII. This Constitution may be amended by a two-thirds vote of the members present at any regular meeting, notice having been given at a previous meeting.

BY-LAWS.

Adopted at Third Annual Meeting.

SECTION 1. The President's duties shall be: 1. To preside at all meetings of the Society. 2. To deliver an address upon a horticultural subject of his own selection at each Annual Meeting. 3. To call meetings of the Executive Committee, and, with its concurrence, have superintendence of the affairs of the Society in the interim between its meetings. 4. To appoint all select committees, unless the Society shall otherwise direct.

SEC. 2. In the absence of the President, the Vice-President shall preside at all meetings; in the absence of both, the Society shall elect a temporary presiding officer. The Vice-President shall also perform the duties of the President during the recess of the Society in the event of the disqualification of the latter for the performance of the functions of his office.

SEC. 3. It shall be the duties of the Vice-President for the various Counties of the State to encourage and promote the formation of local societies, tributary to this Society; to obtain accurate information upon all horticultural subjects of general interest in their respective Counties, and report fully in writing thereupon at the succeeding Annual Meeting of this Society.

SEC. 4. The Secretary shall record the Proceedings of the Society, file and preserve all its documents, prepare all reports for publication, attend to the correspondence of the Society, and perform such other duties as naturally pertain to his office.

SEC. 5. The Treasurer shall receive all moneys payable to the Society, and keep an accurate account of the same, disbursing such funds only upon the order of the Executive Committee. He shall submit at each Annual Meeting a written report of all the receipts and disbursements, the latter to be supported by sufficient vouchers, which, with his report, shall be referred to a special auditing committee, who shall report thereupon at the same meeting. He shall pay all funds and deliver all property of the Society in his possession to his successor in office as soon as the latter shall have qualified. He shall also keep a roll of the membership.

SEC. 6. In addition to the duties prescribed by the Constitution, the Executive Committee may call special meetings of the Society at such times and places as they may determine, after publication to that effect in such newspapers of this State as they may select, and notification by mail of all the Vice-Presidents for the Counties, thirty days prior to the date of such meetings.

SEC. 7. The term of each elected officer shall begin on the first day of January next succeeding his election, but all such officers shall hold their offices until the election and qualification of their successors.

SEC. 8. All persons interested in horticulture, or allied pursuits, shall be admitted to membership upon making application therefor. No person not a member shall be permitted to vote or to participate in discussion upon the floor, except by invitation of the Executive Committee, or consent of the Society. Application for membership shall be made to the Secretary, who shall place the name of the applicant upon the roll of the Society.

SEC. 9. Each member shall be entitled to a copy of the published reports of the Society.

SEC. 10. The regular order of business at each meeting shall be:

1. Organization.
2. Secretary's Announcements.
3. Report of the Treasurer.
4. Reports of Standing Committees.
5. Special Committees.
6. Address by the President.
7. Papers, Addresses and Discussions.
8. Reports of Select Committees.
9. General Business.
10. Adjournment.

SEC. 11. These By-Laws may be amended by a two-thirds vote of the members present at any Annual Meeting, or at any meeting called for that purpose.

PROCEEDINGS

OF THE

SUMMER MEETING

OF THE

Maryland State Horticultural Society

HELD IN

Berlin, August 8th and 9th, 1906

The summer meeting of the State Horticultural Society was held at the home of the firm of J. G. Harrison & Sons, Berlin, Maryland, this firm having kindly extended an invitation to the members of the Society to be their guests on this occasion. About 500 members attended the meeting; this attendance, together with the interest shown by the members, established this summer meeting as the most successful and profitable in the history of the Association.

Members and friends were conducted over the 1,000-acre nurseries and taken to Ocean City for a pleasant outing. All present pronounced the members of the firm of J. G. Harrison & Sons especially genial hosts, and all expressed their great appreciation and thanks for the pleasant and profitable outing.

The business session of the meeting was held Wednesday afternoon, August the 8th, at Berlin, previous to touring the nurseries, and Thursday morning, August 9th, at Ocean City.

WEDNESDAY, AUGUST 8, 2 P. M.

The meeting was called to order at 2 P. M. by President E. P. Cohill.

Prayer by Rev. H. G. England, Berlin, Md.

President Cohill, Ladies and Gentlemen: I wish to take advantage of this my first opportunity to express my deep appreciation of the honor conferred upon me by having been chosen by you to preside over this society of horticulturists, floriculturists, agriculturists and truckers.

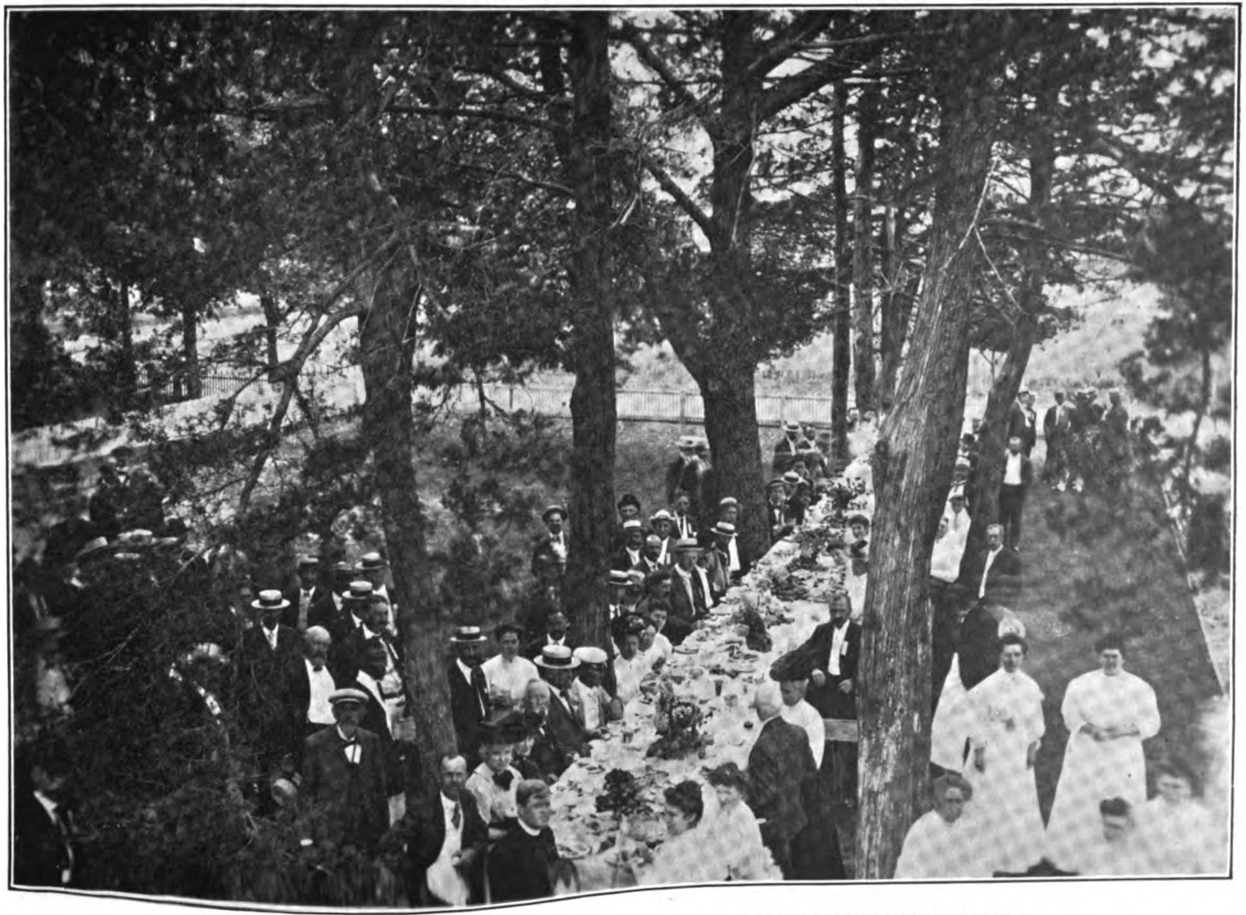
The number present here to-day, coming from every part of Maryland, some from Virginia, Delaware, West Virginia, and other States, far exceeds our expectations in this respect, and in the intelligent interest that is shown by this gathering, can be seen the great accomplishments of the Maryland State Horticultural Society, and by it is shown the fact that this good work will go on; that it will continue in the uplifting and advancing of the interests of horticulture, agriculture and kindred pursuits.

We are grateful for the financial aid that has been given us by the Maryland Legislature last winter; and for the words of encouragement that have been spoken from time to time by our "farmer" Governor, Warfield.

There is one matter that I wish to particularly call to the attention of the horticulturists and agriculturists: one which I believe this association should take in hand: and that is the necessity of urging the teaching of horticultural and agricultural subjects in our public schools. Being a member of the Washington County School Board, I have had the opportunity to, and have noticed that a large number of our text-books are published in New England; and that in these books the publishers take advantage of every opportunity to direct attention to their own business, their facilities, and so forth. To my mind it seems that some of this matter should be eliminated from the text-books and the subjects of horticulture and agriculture there treated instead. This situation can be easily remedied; and the subjects of horticulture and agriculture can be included in the schedule of studies without interference with the regular studies of the institutions. I, therefore, strongly advocate the treatment of horicultural and agricultural subjects by our educational institutions, and that these subjects be included in their text-books.

I will not now bore you further with discussion of this subject; but

PLATE II.



SUMMER MEETING, AUGUST 8 AND 9, AT T. G. HARRISON & SONS, BERLIN, MD.

I do hope that this Association will take some further steps toward accomplishing this result.

I hope that each one of you will work for the success of this Society, and for the success of its Annual Meeting to be held in Baltimore next winter. Bring the ladies with you; they always help us. Every horticulturist or agriculturist who has a boy, let him bring him with him to our Annual Meeting in Baltimore next December. If you haven't any boy of your own, bring some other man's boys with you to that meeting.

The thanks of this Association are certainly due to the Messrs. Harrison, for their efforts and endeavors to make this meeting a pleasant and successful one.

We will now have the address of welcome, by Mr. Orlando Harrison. Mr. Harrison needs no introduction from me.

ADDRESS OF WELCOME.

HON. ORLANDO HARRISON, *Berlin.*

Mr. President, Ladies and Gentlemen, Members of the Maryland State Horticultural Society and Visiting Societies:

It is with great pleasure I welcome you in Berlin to-day; and especially so from the fact that you are Horticulturists. If there is one profession of people I admire more than another, it is the profession of the Horticulturists of this country.

It is an honor to welcome you: first, because of the fact that Horticulturists are men and women of high moral worth and culture; and I am sure that I voice the sentiment of every Eastern Shoreman present when I extend to you of Western Maryland and adjoining States true Eastern Shore hospitality.

We are always glad to welcome citizens from other counties and other States, as we learn, one from another. Whatever my Eastern Shore friends may say to you, do not consider it as boasting. If they tell you our country is better than yours, charge it all up to patriotism.

We are here as Horticulturists to help improve our conditions, and to do this we must stand shoulder to shoulder and put into active practice what we learn.

My claim is, the land is the basis of all wealth, and he who helps in the development of the soil is a public benefactor and a blessing to future generations.

Note what wonderful strides have been made in Horticulture in the past ten years. Carloads of fruit are now consumed where a few baskets supplied the demand of the past: where, right at our doors—at Selbyville, Delaware, only a few miles away—train loads of strawberries are shipped with profit. Why? Because the growers have learned how to grow them and handle them by practical experience, and train loads of potatoes are shipped from this country with success.

Maryland is primarily a Horticultural State; and the Maryland State Horticultural Society has for its aim the advancement of the farmer and fruit-grower. Because of this fact it should receive the hearty co-operation of all those who are interested in agricultural pursuits.

Any man should be proud to be called a Horticulturist. His occupation brings him in direct contact with Nature and Nature's God, in the cultivation of vegetables, fruits and flowers.

Just here I want to remark that I consider my occupation as a fruit-grower and nurseryman one of the highest of callings. I would exchange with no man; and the boy who leaves the farm to go into a crowded city fails to get the best out of life. I would like to see every fruit-grower do justice to his boys by encouraging them to see the beauty and healthfulness in cultivating the soil. Interest your boys at home.

What greater asset can you have on a farm than a boy who can take the place of his father?

I believe in learning to do by doing. What little success I have gained has been by visiting the different Agricultural Colleges and attending the Horticultural meetings; and I am proud to say that the Peninsula Horticultural Society was the first I ever attended. What I have learned I have tried to put into practice.

To you men of Maryland, I would say: Become more interested in your Maryland Agricultural College; visit it, and give it your support.

Now, just one word with reference to our town: Berlin has about twelve hundred and fifty souls; and as Mayor of Berlin I can say to you that there are twelve hundred and fifty as large souls as you ever met. Berlin is a historic spot: Within its corporate limits is the birthplace of Commodore Stephen Decatur. Our business men are open-hearted and progressive. We are a city of schools and churches. United in our advanced efforts for the advancement of the good, our people believe in honesty and sobriety, and knowing that you are men and women of such excellent character, we are glad to greet you and give you the keys of our city and the keys of our homes. You have won the admiration of our hearts, and now, as Mayor of Berlin, and in behalf of the City Council, and the entire people of our town, I say to you all: WELCOME!

RESPONSE.

W. F. FLITTON, *Baltimore.*

Mr. President, Ladies and Gentlemen:

I guess, if you were to judge me by the shade of my hair, you would think this is my farewell speech. Not a bit of it. You never see or hear of horticulturists or agriculturists growing old; they never come to the chloroforming line. Look around you; some may be past sixty; some of us have gray hair, but do any of us look like fit subjects for Dr Osler's prescription? And, gentlemen, this reference to the treatment prescribed by this learned disciple of Esculapius is in the same spirit in which it was intended. No, no! We are just beginning to live, for we are horticulturists; others may not be like us, but we are just getting to the point where we wanted to be forty years ago, and we don't propose to give up until we have gone much further into it. There was a time when it was with difficulty that we could get some of our horticulturists, agriculturists, and florists together; but now, thanks to our Maryland State Horticultural Society's endeavors, interest has been aroused and the Society is a success. Last year they were taken to General Seth's, but we did not have then as much of a gathering as we have here to-day.

We are improving; these meetings improve us, and we are improving along the right lines, for we are getting to the point where we will be united in that union we have so long desired to see.

When you come up to Baltimore in the fall—or winter—to the exhibition there, we will take you to the Gardeners' Club. You can't take all the honors down here; we are going to do some of them up in Baltimore next December.

But, ladies and gentlemen, just a word here in regard to these meetings that we have where we get together and talk over and discuss matters and things: while this outing is most pleasureable, and we enjoy it, we can, notwithstanding our inclination to get all the pleasure out of it there is in it—and there is a great deal of enjoyment to be gotten out of such outings—I say, we can, at the same time, not only have our pleasure, but mix business with it, not only to the extent of discussions; we should discuss horticulture, agriculture, floriculture, and everything pertaining to it. But, ladies and gentlemen, there is nothing that can be advanced without *union*. Unless we get together; unless we have these meetings, we cannot get together and have union, and unless we have union we cannot advance our profession as it should be advanced.

We all appreciate very fully what is accomplished by these gatherings, and especially this one, and how much we consequently owe to gentlemen like our Honorable Mr. Harrison. He has disappeared, hasn't he? Well, never mind; he is the Mayor of his town, and we all know just what and who he is.

This is only the third summer meeting of this Society. At the last meeting there were not half so many present as at this meeting; so you see what an immense improvement there has been so far. And the objects the Society started out to accomplish will be accomplished.

You have been asked to support the Maryland Agricultural College, and I, therefore, need not refer to that matter any further, except to endeavor to indelibly stamp upon the tablets of our memory the fact—and it is a fact known to most of us—that it is to the continued, ably-directed efforts of our Agricultural College that this Society is in existence. But these meetings, and the gentlemen who make it possible for us to hold these meetings is what I want to impress upon your minds particularly.

There are no means of discussing so intelligently our different interests than by getting together as we do at just such meetings as this, and there is nothing that benefits our profession so much as to have such discussions as prevail at these meetings, and nothing that can so advance our interests.

So far as our honorable calling is concerned, you know that God made the first man a gardener, and you are the best class of men He ever did make, or ever will make, and you will continue as such.

Ladies and gentlemen, I desire to thank our host most heartily on behalf of the whole of Baltimore for his most excellent entertainment of us all on this occasion. As for the others, I do not know where they come from, and will allow them to thank Mr. Harrison themselves. I thank you.

ADDRESS.

HON. THOMAS A. SMITH, *Ridgely.*

Mr. Chairman, Ladies and Gentlemen:

You may suspect from the sound of my voice that I have been trying to attend all the camp meetings in the First Congressional District, though I assure you that I have not had to sleep out of doors and have received the most cordial treatment wherever I have been.

The quotation, "out of the abundance of the heart the mouth speaketh," is understood by every one; but another, tho' not Scriptural, is equally true: "the way to a man's heart is thro' his stomach," though I do not have to dwell upon the latter in commendation of the hospitable and enterprising gentleman whose guests we are to-day, because you have been eyewitnesses and participants.

I was very glad when my friend, Mayor Harrison, in his address, alluded to the Maryland Agricultural College, and I am going to add now, not because any statements that have been made on the subject, need any backing up, but because of the presence of Captain Silvester, the able and devoted president, who has done so much to make the institution known as the Maryland Agricultural College in fact what its name implies, viz., the greatest aid to the farmers of Maryland in building up and getting the best possible results from the great natural advantages furnished by the soil and climate of Maryland and in properly training boys and girls along agricultural and other lines. I am going to say further, that earlier in the present year the Secretary of Agriculture, the Honorable James Wilson, stated on the fiftieth anniversary of this college that Maryland is the best state in the Union for agriculture and horticulture.

I know we have some Delawareans here to-day, and I also know that what is beneficial to the Eastern Shore of Maryland is of equal benefit to the whole peninsula. Perhaps some of you present know that I was born in Delaware, consequently am one of the "Blue Hens' Chickens" by birth; but I have lived in Maryland now so long that, while I always have a good word for the State of Delaware, I feel that I am more of a Marylander than a Delawarean; tho' whatever I may say of Maryland should not be considered as against Delaware, but, as Mayor Harrison has said, "attribute it to patriotism." I always have and will always stand ready to do whatever I may be able for Delaware. You are no doubt familiar with the statement that a man without some patriotism for his own State makes a poor citizen of any other.

Alluding again to what the Secretary of Agriculture said, I want to add that I believe that Maryland offers greater opportunities for the successful and profitable growth of diversified crops than any other State in the Union, with locations obtainable to suit the tastes of the most fastidious, even though they be as many and as varied as the varieties of the products that so delightful and uniform a climate as Maryland's can produce. It matters not whether they prefer the mountain slope, the hillside, the valley or the plain, each can be found in Maryland, either washed by the waves of the Atlantic, the waters of the great bay, the placid rivers flowing therein or the cool rivulets and babbling mountain brooks, all of which are in unison for the promotion of the growth of crops in spring and summer, and the protection of the delicate fruit buds of the vine and tree during the winter's frost, which season, but for the rarefication of the atmosphere by these waters, might prove to be blasting.

Everything in the shape of grasses, grains, fruits, and vegetables that grow under similar climatic influences flourish in Maryland soil, whether indigenous or otherwise; hence the greatest possibility for diversification exists, the advantages of which are clearly apparent to the intelligent farmer, for he knows full well that if his planting is confined to one or two crops, and the season should prove adverse to these, his profits would be very small, or, perhaps, the balance on the wrong side of the account; when, on the other hand, if he sowed wheat, planted corn and other cereals, strawberries, blackberries, raspberries, cantaloupes, melons, potatoes and tomatoes, fruits and vegetables as commend themselves to the market and his taste of culture, within the scope of his ability to properly cultivate and handle, there can be no total failure with him any year, because there is never a season in this State so unpropitious but that some of these crops mature and are profitable, and in most cases the great majority of them.

I know this is a bad season and a poor time just now to talk of the diversity of crops, or perhaps of crops at all, on this shore, and I want to say to my friends from the Western shore of Maryland that they could not have visited the Eastern Shore at a worse time than this, to learn from inspection the annual average normal condition of crops. This reminds me of what happened in one of the counties of the State, when a gentleman who was sometimes unfortunate in the use of quotations called on two beautiful ladies—belles of the county—who accepted his invitation for a drive. During the trip the young ladies discussed the noble qualities of a certain other lady of the neighborhood, who was unfortunately—or perhaps fortunately—not very handsome; and when they had finished the discussion of her, the young man remarked: "she is the ugliest woman I ever saw, 'present company excepted.' "

I am not going to say anything further about present company, because this is such delightful company that I could not say anything against it, and to praise it further in your presence might be considered bad taste; but I do want to say that this is the only season during my observation of the agricultural and horticultural possibilities of this section of country that has come so near being a failure; but even now it cannot be called a failure, and if it were, it is not our fault. We attribute it all to the elements. There has been so much rain that to-day our crops show up worse than at any other time I recall, and I am not any spring chicken; hence I shall simply say that this is the best country in the world for the profitable growth of diversified crops, present season excepted.

Ladies and gentlemen, I know there are others here to talk to you, and in order to give them an opportunity, I have but to thank you now for the courtesy you have extended to me.

ADDRESS.

DR. EDWIN J. DIRICKSON, *Berlin.*

I am only a product of the Eastern Shore—that is, of a part of it—and in speaking to you I speak to you as one of your fellow members familiar with all the varied crops of my native soil and its possibilities.

This meeting to-day is a representative meeting of the Maryland State Horticultural Society. The Horticultural Society of Maryland is not confined to raising a few flowers—a few beautiful, ornamental flowers—as the word really implies, coming from the Latin word *Horter,* à garden culture to work, and the word refers primarily, however, to the cultivation in limited quantities of berries, fruits and flowers of all kinds.

Maryland has been and is now one of the principal States in this country (or in the United States rather) in horticultural production. It is the original home of the peach, the most luscious fruit that was ever grown. The peach was first brought to this country by an admiral who had visited Persia, and was planted here on the Eastern Shore of Maryland—on the Eden River, a branch of the Tredavon in Talbot county. The tree became so productive of attraction and fruit that members of Congress and horticulturists from every part of the United States visited this shore by the water to behold the wonderful sight of a peach.

It has not been so many years ago that the peach was first so introduced in this country—probably eighty or one hundred years will cover the time since it was first grown in this country; and we claim that the Eastern Shore of Maryland is the original home in America of the peach.

Horticulture has always received a great deal of attention from prominent people of the world. Only a few years ago, the persons who first developed the Lawson pink received for it twenty-five thousand dollars. It is still in existence and was owned by a woman who recently died—the wife of Mr. Thomas W. Lawson.

Holland was a great horticultural country. It is said that the King of Holland once offered his throne if any one would raise him a black tulip; and the raising of a fine quality of tea in China was the guarantee of becoming a noble.

Almost the first chapter in the Book of Genesis relates to horticulture. Eve partook of an apple and gave it to her husband in order that he might enjoy it; and the modern Eve of to-day is just as influential as the Eve of that time, when it comes to persuading her husband.

I picked up, some six months ago, an Agricultural Report, published in 1832, and noticed its treatment of the subject of horticulture, and the variety of fruit the report dealt with, particularly the apple. It was described and set forth there in illumined print as well as we could have done the same work now, showing that even in the earlier age the subject of agriculture and horticulture and kindred interests in the United States received a great deal of attention.

Every section of the world has some variety of fruit that reaches its highest development in that particular country or section; but I am proud to say—and I can say it truthfully—that this little area of Maryland and Delaware, and especially that called the Eastern Shore of Maryland, has a greater variety of fruit that attains its highest perfection within its bounds than in any other section known in the United States. There is nothing we cannot raise that will grow outside of a hot house. The number of fruits, vegetables, and other plants that attain their highest perfection within the boundaries of Maryland is equal to that of anywhere in the world.

That is, modern horticulture as practiced by members of this Society, coupled with the blessings that kind Providence has laid at our feet, has resulted in this extraordinary production that has placed this locality in the foremost ranks of sections adaptable to agriculture and horticulture. Nature has given us an abundance of water and has given us the soil fitted for every form of vegetable life that can grow upon any soil, and we have but to reach out and get it. With proper cultivation our crops reach their highest perfection, so that it seems that Providence has extended over us her bounty to the utmost.

Let us make the most of it. Let us do and return, or give to others, the kindness we have received. Let us train our children to horticultural and agricultural pursuits (there can be no more honorable or profitable calling), but we should give them the greatest possible facilities for development. They are to be had, and we should take advantage of them all for the benefit of not only ourselves but our children and future generations after us.

As Mr. Harrison very truly stated, the profession of horticulture and agriculture ranks extremely high, and no college ranks higher than our own State Agricultural College. It has the support not only of our State, by its appropriations, but it is largely supported by Federal appropriations.

Gentlemen, try to imagine, if you will, for a moment, what kind of a success a boy will make of himself if he is not trained or educated along the lines of the employment he enters, especially if he is put on a farm, untrained. He may, by hard application and saving, and by taking advantage of all the benefits about him, accumulate something to live on; but he can never measure up to the standard of the trained and skilled agriculturist, and he can only attain that standard of perfection, so essential to success, by attending first a proper school.

The boys have been pinned down to too much of the sweat and hard work of our farms. Unbind him by giving him the knowledge that will lift him to higher planes of the profession; teach him to love the products of his art and thus make him more successful, and we will raise in our midst a farming and horticultural interest far beyond the present criticisms of our experts.

The farmer is often looked upon as simply what may be termed the residue of the population. Mark Twain was asked to make a speech at a farmers' meeting, and he began by describing the many things the farmer had to do; he had to rid plants of insects, he had to carry water, and he recited a number of other things the farmer had to do, and then, after pausing for five or six minutes, he said, "Darn a farmer, anyway." And that is what too many people think now.

That is a good deal of the case here. Why, for a farmer to make money is an almost unheard-of thing, unless he is an educated man and knows what he is doing; and I think it is committing our children to the work of the ordinary farmhand to allow them to go through life without taking advantage of these opportunities that are placed at our feet for them, without gaining the knowledge it is our duty to give them.

In conclusion I will say that I am glad to witness such a gathering as we have here to-day. It is one that will live long in the memory of all of the Eastern Shore of Maryland. Come again and be welcomed in true Maryland style.

ADDRESS.

PRESIDENT R. W. SILVESTER, *College Park.*

It is well for us to be here to-day. We are on the grounds of a man who has learned his business from the planting of the fruit seed to the ripening of the fruit and then knows how to properly conduct it to the consumers' hands—a man who grows his product, who estimates its value by the canons of good business sense. What are these canons?

First, interest on the capital invested;

Second, the cost of production;

Third, a living profit.

And he receives it. Any other man in this country, no matter in what business he may be engaged, unless he is conducting it on this basis, might as well discontinue it without further delay, for he will surely fail. He must make his estimates upon this basis.

Ninety per cent of the agriculturists, horticulturists, and cereal producers of the State permit the distributors to place their price upon the growers' product, and in addition fix the prices for the consumers also. It is absolutely impossible for prosperity to come to the agriculturists, the horticulturists, the truckers, the animal industry men and the cereal producers until they, by union in some manner, fix a basis of cost to the consumer which will return to the producer a reasonable compensation for his labor. Farmers are becoming alive to these conditions, and the day must come when the united producers of all life-giving products of the soil will conduct their business in a manner which will bespeak a high order of professional skill and business ability.

But this can only be accomplished when the men who are engaged in agriculture, horticulture, and all kindred agricultural work realize their dependence upon each other and look upon co-operation as absolutely necessary to their success. When the horticulturist will view any discrimination against the man engaged in animal industry as a discrimination against him; when the floriculturist will respond to the co-operative spirit; when strength is needed to resist any insidious attack upon any brother who "tickles the soil that it may smile in the harvest"—then the day of our redemption may be considered near at hand.

Our slogan cry must be "A free field and fair play to all"—our struggle must be fraternal, not a warfare against any equitable business—only a keen appreciation of the laws of self-preservation, which is the first law of nature. Every sane man and woman, whether consumer or producer, must recognize the equity of this position.

Horticulturists of Maryland, I had occasion only a few days ago to see the result of shipments made from a certain section of Maryland of a horticultural product. It was truly pitiable to see the character of the product, as well as the want of proper training in the preparation of this product for the market! On the public carrier to which I refer there were 8,000 boxes of peaches. This fruit was to be sold, although it was green on one side and specked on the other; it was to go to the Baltimore City Market, and into the hands of the people to whom it was consigned. On that day the price of a box of this fruit was 35 cents. Make an estimate of the returns of that fruit to the people who produced it! If they entertained any hope of a remunerative return, they were following blindly an *ignis fatuus*. Infinitely better it would have been if it had been sold at home to local canners, and that which was unfit for this purpose dumped into the swine pen.

We must keep up the standard of our fruit and maintain its reputation with the consumer. How long will it take to overcome the effect of such shipments upon the consuming world?

There is hardly a man in this region that cannot recall the time when Southern California was first opened up to the fruit business. What luscious, beautiful fruit came from there! What was the result? Splendid prices at the beginning; but the influx of people brought competition to a point where it was not profitable, and the wise and far-seeing men of that section realized the importance of getting these fruit growers in California together.

Knowing the temper and ability of the Maryland people as I do, I am not here to say that the business ability of the people of this peninsula is of such a character that they cannot exercise a co-operative spirit and form just such an association as the fruit growers of Southern California have consummated. To-day, as a result of the efforts of these wise and far-seeing men, the California Fruit Exchange has been established there, and I know the people of Maryland can do the same thing here. And it is only a question of time when it will be an accomplished fact on this peninsula!

Do you not see on the fruit stands in the fruit venders' hands in Baltimore, and in every city of any size, California's fruit placed down by the side of your own? And are you not ashamed, in the great majority of instances, by the showing made by yours in comparison? The California fruit delights the eye; the artist's hands made the package, also the seal; but, notwithstanding the outer covering, the attractiveness of the package or even the beautiful colors on the fruit itself, the Maryland fruit is as superior to the California fruit when the palate is consulted, as is the California fruit when the eye is considered. Do sensible people buy fruit to please the eyes, or to satisfy the palate? The question needs no answer.

There should be just such an association in the State of Maryland as exists in California—an association that will make it its business to keep in touch with every market of the United States and regulate the business from every standpoint. I believe I bespeak the good sense of every horticulturist here when I say that he realizes that there is no market in the world as easily depressed as is that of our own metropolitan city. This is an unsatisfactory condition and should not prevail, but it will prevail and remain so, just so long as you are indifferent to the proper distribution of your product and support the tendency, everywhere evident, to dump upon the Baltimore market a product which should be consumed in the local canning houses and the swine pens of your farms.

If there is established in this State an Exchange to which your product can be distributed and regulated—an Exchange managed by the best ability obtainable, such ability as your present Association contains—you may send your fruit to Baltimore, through this Exchange and look with confidence to the results. Keep your poor and indifferent fruit at home; get rid of it by other means, and the question is solved.

Take the progressive principles that have proven to be successful in their application in other sections of the country—adopt them, and incorporate them in your plans as far as possible, as well as others—to meet the special conditions that exist in your section.

I predict that our Tobacco Growers of Southern Maryland are going to win out in our section of the State; some men say, no matter what you do, the raising of tobacco is too expensive. It is easy to suggest remedies for a kind of farming which engages the attention of a certain people; it is easy for the suggestion to be made—but it is difficult to adapt one's self to the advice given. We are not even considering the probability of dropping this product from our list of products in Southern Maryland. We are going to stand together. We are going to win out in the contest which we are making, for the people of our Peninsula in Southern Maryland are as big-hearted and loyal as any people that can be found on the face of the globe, and we will find the means of relieving the stress and strain that is now upon us.

Your neighbors on the Peninsula of Virginia, have formed a union, which has been of inestimable value to them, and the day is at hand for the people on the Peninsula in Maryland to take a stand for progress and advancement.

Our good dinner here to-day accounts for the satisfied expressions I behold now before me—especially those of the men. You remind me of an anecdote I once heard in connection with a lady of doubtful age; she had foregone matrimony, she felt always like congratulating herself that she had never entered into the state of double-cussedness. She was cautious about entering into this state; she was getting along pretty well in life and for some reason her heart was warmed by the pleadings of a suitable suitor; her misgivings, however, were still alive. In her complexity the happy thought possessed her to consult with "Aunt Susan," who had always been successful in keeping "Uncle William" in a happy frame of mind; so she paid a visit to "Aunt Susan," and asked her how on earth it was that she lived so happily with "Uncle William" when there was so much misery in the world of matrimony occasioned by the bearish moods of men. Aunt Susan's reply was: "My child, it is very easy, if you only know how." Aunt Susan vouchsafed the information she sought by saying, "My child, it is only necessary, if you desire to accomplish the result, to feed the beast on a well-balanced ration and keep him free from dyspepsia."

The people of the Eastern Shore of Maryland, particularly here to-day, have certainly learned how to satisfy you men. I never saw a better-natured lot of fellows than the crowd after they had finished cleaning up that long table over there. All the faces that had the appearance before dinner of 'Where are you going, mourner, with your head hung down," have been changed to fit the Shakespearian sentiment, that "Now is the winter of our discontent made glorious summer by Harrison's table."

I want to thank the speakers who have preceded me for the complimentary words that they have uttered concerning the Maryland Agricultural College. Certainly there has been a change of sentiment in the State of Maryland in regard to this institution! Time was when men looked away and changed the subject, when the institution's name was mentioned; it had been everything but an Agricultural College. It had run the gauntlet of a preparatory institution for West Point and the Naval Academy; a high and a grammar school. These obliquities from the principles of its birth were due to two causes. First, the State was indifferent to its support; second, the Agriculturists of the State did not look after their vested rights and hence the pitiable condition for years of an institution—the first of its kind in the Western Hemisphere to consider that a special education was necessary to secure the best results from the soil.

The Board of Trustees of the Maryland Agricultural College have done their utmost, and have succeeded at last, in heading the institution to the purposes for which it was organized. There was a great pride, ladies and gentlemen, in the early history of your institution by the people of the State. It came into life by the foresight of the public-spirited agriculturists of your State—not by reason of a public benefaction. Many were the people who contributed money necessary to buy the farm and equip it with facilities for instruction! Every Maryland man and woman should have a special pride in the history of your college, for its organization was an epoch-making period in the history of the United States as well as in the history of your native State.

Soon after the organization of the college, as a result of public spirit clamoring for it, the First National Act was passed, turning over to the States and Territories of the Union public lands, which were to be sold and the proceeds to be used by the States and Territories for establishing and maintaining Agricultural Colleges in each State and Territory. No doubt Senator Morrill, the author of this act, caught his inspiration from Maryland's accomplishment.

Then followed the fight for life through the doubtful and troublous times, from '61 to '88—when the Experiment Stations were organized in each State and Territory of the Union. These acts are the foundations of our Agricultural Colleges and Experiment Stations.

What is the significance of these twin agencies for Agricultural uplifting?

It is said that all men and women may be divided into two classes; the first belong to the "seer of visions," to the other the "dreamer of dreams." To the first the world owes its progress and greatness when in a man or a woman's life no visions are seen, all creative power is dead. They live in the past and yet they serve a purpose; they become to the "seer of visions" a governor that controls the machinery which drives the plant, which makes the products of an era in the history of the world. It is said that the young men and women are the "seers of visions," and that the old men and women are the "dreamers of dreams." I do not stop to question the accuracy of this statement, I can only say that frosts of fifty winters rest upon my head and heart, and my hair has lost its vitality and barren knolls are appearing, still I am a "seer of visions." In my mind's eye to-day I have a vision: a vision big with beneficent results to the coming generations of the "children of the soil." In every department of this complex life I see an intelligent head directing its affairs in keeping with the well-defined principles of exact and experimental science; I see men and women in fraternal co-operation with their brother-men and sister-women; I see them not confined alone to the farms, gardens and homes, but rather directing the disposal of their product directly to the consumer by the agency of a co-operative spirit. I see them not waging a relentless war of extortion upon the consuming world; I see this disposition of the human heart atrophied by inaction; I see the principle of brotherly love arising from a close communion with their Maker, as they daily recognize the voice of God in the operations of his wonderful laws; I see the future farmer demanding that he be represented in all the halls of legislation by one who possesses a training which qualifies him to stand as a stone wall against any legislation of an invidious character to agriculture which may seek the distinction of becoming a law. This farmer must be a well-rounded citizen and patriot.

In this vision the little brown school-house on the hill, with its bare walls and unattractive environment, has disappeared under the operation of the laws of evolution, and the attractive consolidated rural school stands as a monument to the advancement of agricultural intelligence.

The twentieth century farmer will realize that a five thousand dollar barn for his cattle and a six hundred dollar school-house for his children is an anachronism. He bases his belief on this matter on the fact that one houses cattle and the other children. He has advanced to the plain of a larger outlook, where he realizes that the country child is by right entitled to every opportunity for an education for a life's work and an environment for culture possessed by the city child.

These, my friends, are some of the aspects of my vision. Before concluding, I wish to add that this vision can never body forth in concrete form, unless you men and women fully realize that there are three sides to every country home—the woman, the man and the children.

Efficiency in the man for the performance of his obligations is not one whit more necessary than is efficiency in the head of the house. A woman, to be an accomplished home-maker, cannot inherit this power; it comes only by training. Therefore, your schools must be equipped to give her the training. Your Agricultural College must have in its curriculum a Department of Domestic Science. The girl is entitled to this training. In Maryland we are doing her an injustice by denying her the opportunity; this splendid work is going on in many of our Agricultural Colleges in the United States. The country homes of the Province of Ontario are assuming a different aspect under the directive power of the girls who have been trained by their Agricultural College at Guelph. Let the vision heretofore spoken of possess you both in body and mind, and may its fruition be yours. If not, however, then may your efforts be of such a character as to give its full realization to your children. You and your children can have it, if you are willing to pay the price necessary for its purchase. It cannot be bought with money. It must be paid for in intelligent, well-directed and co-operative effort, by the men and women of our great country, who realize that agriculture is the one great basic industry of the world—the one on which every other vocation among men rests. Such being the case, our Government should see to it that the conditions for its development are not handicapped by invidious legislation.

PRESIDENT COHILL: I wish you all to meet Professor Waugh, who will speak for us to-morrow forenoon at Ocean City.

PROF. F. A. WAUGH: *Ladies and gentlemen:* It is often pretty hard to live up to the advertisement or recommendation some men get, and when that is, one of the best horticulturists in the United States, it is doubly hard, for there are some pretty good ones. You know any such advertisement is apt to be misleading, anyway; and when you come to judge a man by his name, or even by his reputation, we may sometimes get left.

I had a friend not long ago who went to Toledo on some business and got into trouble in just this way: He had an estate to settle up there, and got into so many legal difficulties that it was necessary for him to find a good lawyer to straighten him out. One was recommended to him as the very best lawyer in Toledo, but he was loath to go to him on account of his name. His name was A. Swindle. He was still more loath to go in when he called and read the name on the lawyer's door, "A. Swindle, Attorney at Law," because that was tremendously suggestive of some experiences he had had with lawyers previously. But he went in, nevertheless, and found Mr. Swindle in his office. He presented his case and Mr. Swindle gave him the kindest attention and treated him courteously. He got advice exactly as he wanted it; and learned exactly what he wanted to know in the promptest manner, and the whole muddle was straightened out to his entire satisfaction. He was so drawn to Mr. Swindle personally that he felt that he wanted to be better acquainted with him, so he said, "It's too bad, Mr. Swindle, that such a fine man as you are, should be so handicapped by such a name as you have." He blushed and said, that as his father had given him the name, he could not very well change it. "But," replied his visitor, "Can't you do something for it? If you can't change it, can't you change the sign for instance, on your door there, to make it less conspicuous, or something of that kind? Why not spell out your first name in full? Wouldn't that make it less conspicuous?" Mr. Swindle scratched his head, but replied, "I had thought of that; and I would have done that very thing a long while ago, but to tell you the truth about it, it might make it worse. My first name is 'Adam.'"

I did not come here, ladies and gentlemen, to make a speech. This afternoon it is my chief pleasure to represent among you the Commonwealth of Massachusetts, and I am glad of the opportunity to see you again personally. I come here not altogether an alien, because I have been to the Eastern Shore of Maryland before, and hope to come again. Knowing a great many of you people here personally, I feel very much at home among you, and I sometimes feel as if I would like to run for office on the Eastern Shore. I say that not because I think anybody can be elected here, but because I think this is a fine place. In that way it would be a great recommendation for a man if he were to be elected to an office in such a locality as is this one.

I find these people here friendly and sincere; there is something about them that one likes, and he can't get away from it; it is that frank, open expression of sincerity and friendship which I find here as it is found nowhere else in the United States.

I say that sincerely and honestly.

I might give an illustration of that, which, however, you may have heard; at any rate, it has been going the rounds. It was said that last winter, in a little city up here on the Severn river, a man drove into town, and, pulling up to the sidewalk, jumped out, and said to another gentleman who was standing there, "Will you hold my horse here for a minute while I go in and get this prescription filled?" The man turned, looked at the stranger and said, "Sir, I am a Member of the Legislature." The new-comer looked him over for a moment, and said, "Well, that's all right. You look honest. I'll take the chance."

There is something about the looks of you people here that appeals to me. I would be willing to take a chance on any one of you.

There is something about this development of horticultural and agricultural enterprises that is good for the State; that is good for the Nation; and I hope that all of you here, and especially the members of your Legislature will take that into account, and consider, as should the whole population of your Commonwealth, the value of your efforts and your work.

While every citizen is, or at least should be, patriotic, there is something about the tillers of the soil that makes them worth more to the Nation than any other men. Not only is the farmer worth more to the Nation because of his daily occupation and accomplishments therein, but in time of war, when the Nation needs its citizens to fight for their country, who are the best men, the best fighters, the most loyal and patriotic volunteers? Who is the man that will fight the hardest for his country? The man who actually owns the land he seeks to protect—his home—the man whose close communion with Nature on his own land, in the open, who daily breathes the air of freedom that pervades his very being, or the man who rents a room in the back of a four-story tenement in the city? Which of the two has the more patriotism? The farmer's patriotism is born with him, and developed and cherished by his daily acquaintance with his farm.

There is something about such a sense of absolute ownership that is the very basis of patriotism.

It is like the patriotism of an acquaintance of mine in Massachusetts. The city of Boston had recently been buying up great areas of land in order to get a new water supply. They bought up and condemned whole towns; and you can imagine the heartrending process, when homes and churches were condemned and removed, when homes that had been handed down from the grandfathers and fathers to the sons, were condemned and demolished. About that time my friend, Henry Marshall, had a farm up on a hill near the condemned land, and every time the engineers came around there Henry feared for his farm. One day a preacher came along, and was tempted to drive up on the hill to enjoy the view from the top. Henry thought he was one of the engineers that had come there to condemn his farm, and he went out there ready to fight. The preacher accosted him in a friendly way, and asked, "Do you own this farm?" Henry glared at him, and said: "Yes, sir; I own this farm—I own every foot of it—from the road up yonder down to that forest; from the creek down there to Bill Jones' place; from the stars above straight down to hell."

Now that it what I call a comprehensive sense of ownership. That is the very foundation of patriotism. That is what makes people stay in this country and work, not only for themselves, but for others and for their friends; and this bounteous hospitality we have seen here to-day is the outgrowth of that, because the people here are in their homes, and we have the hospitality now of those homes—not merely the friendship of the heart, but also their hospitality that is born of their well-grounded home-pride.

(At this point rain interrupted Mr. Waugh's address, and he concluded as follows:)

Ladies and gentlemen, I wish, in conclusion, to invite you, one and all, to Massachusetts; I hope there will be a time when I can see you all there. When you come, we will do our best to make you welcome.

I thank you.

President Cohill announced the members would shortly be conducted over the large nursery, and adjourned the meeting to reassemble at the Atlantic Hotel, Ocean City, Thursday at 9 A. M.

THURSDAY, AUGUST 9, 9 A. M.

Meeting called to order by President Cohill, and, after some announcements by the Secretary, he introduced the first speaker of the morning.

CO-OPERATION IN THE PRODUCTION, TRANSPORTATION AND SALE OF HORTICULTURAL PRODUCTS.

W. R. BEATTIE, *U. S. Dept. of Agriculture.*

Ladies and Gentlemen of the Maryland State Horticultural Society: Prof. L. C. Corbett had intended to address this meeting, but, as he was called away from town, I have been sent as his substitute. I appreciate the courtesy extended me to-day of having the privilege to address you, and assure you that I will not transgress on your time any more than I can help; but, at the same time, the subject is rather interesting.

The transportation and sale of horticultural products in large quantities is confined to comparatively recent years, and has been made possible only by the advent of improved transportation facilities and the employment of refrigerator cars. The recollection of the oldest inhabitants goes back to the time when fruits were first offered for sale in this country. To-day we speak of shipments as so many hundreds of car loads, and the sales amount annually to many millions of dollars. This is a day of organized effort in all lines, and the horticultural interests are beginning to awake to the advantages to be gained from co-operation. Notable among existing organizations is that of the California Fruit-Growers' Association. However, much remains to be done by way of organization among the growers, and in many instances this work may best be accomplished by the aid of the horticultural societies.

In the investigation of the various horticultural problems one is impressed with the great possibilities of this country, especially the Gulf and Atlantic Coast, and that the next decade will undoubtedly witness a great development along the line of the production of fruits and vegetables for shipment to the great markets. The production of horticultural crops on a large scale has as a rule been attended with a spirit of gambling and the tendency at present, and this is especially true in the Southern States, is to plunge too deeply into one line of work while other lines are neglected. If one planter makes a success with any particular crop, the following season will witness an over-production in this line and a consequent loss. Specialization usually pays in the long run, but plunging is as a rule attended by financial ruin sooner or later.

The character of organization and the results to be obtained from such co-operation depend largely upon the distance from market and the character of produce to be shipped. Within 300 to 500 miles of a good market, where the cost of transportation is moderate, and the produce is not too perishable, it is generally more satisfactory for the grower to ship individually and build up a demand for his goods. On the other hand, where the distance is greater than five hundred miles, the many factors, including freight and express rates, refrigeration, uniformity of methods, and adjustment of claims render a co-operative scheme more effective. As an illustration we may consider the region on the Chesapeake, including Norfolk and the Eastern Shore of Maryland, as compared with the trucking and fruit localities of the entire South Eastern States. In the case of the Chesapeake region we are within the radius of economical and expeditious marketing, and in addition have the benefit of a water rate. South of the southern line of Virginia, more time is required for delivery and the attendant expense is correspondingly greater.

By organization among the growers it will be possible to secure more honest packing methods, as each shipper's goods are stenciled, and any package can be traced to its owner. Much has been said regarding the dishonesty of commission men, while in fact much of the blame rests with the unfair methods of packing. Almost everywhere we find short measure or "snide" packages being used. The dishonest package reduces the general average for the locality, and is unfair to the grower who is putting up standard measure. Dishonest packing is not confined to measure alone, but more especially of the facing of the package and filling the center with culls.

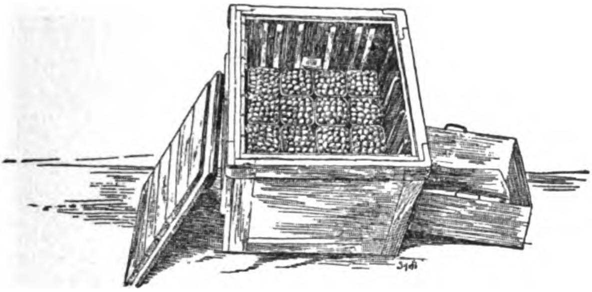
Commission men and dealers generally resort to all kinds of methods, all of which are unfair to the consumer, by which the profits are increased without additional return to the producer. Standard carriers are emptied and the product is refilled into carriers of a smaller size. By actual measurement the cubic content of buying and selling packages have been found to differ as much as 40 per cent. Shipments of snap beans, peas, lettuce, kale, and spinach are emptied and refilled loosely, thereby making 11 or 12 packages from 10. These methods, however, are not based on firm business principles, and every effort should be employed by the growers to prevent such practices. By co-operative associations among the growers it is possible to so brand the goods that no dealer can afford to either change or misrepresent them.

It may be of interest to consider briefly the methods employed in the various sections for the handling of both fruit and vegetable products.

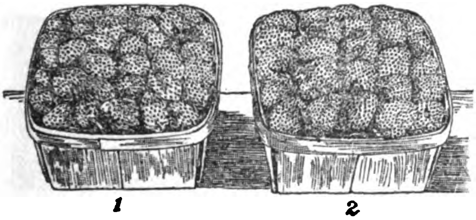
STRAWBERRIES.

The strawberry season opens during December in southern Florida and continues until late in March or early in April. Then follows the regular spring crop produced in northern Georgia, South Carolina, North Carolina, and Maryland. In Florida the fruit does not come in a definite crop but is distributed throughout the winter months. Each plant will produce blossoms and ripe fruit at the same time. The usual method is to pick three times a week, and only about ten or twelve quarts per acre are secured at a picking. The picking is done in regular quart boxes and delivered to a packing shed. In the packing shed tables are provided, the tops of which consist of frames over which burlap or canvas is stretched. Upon this cloth the berries are emptied from the boxes for grading.

Three grades are usually made, only two of which are shipped, the lowest grade or culls being consumed at home. In grading, the best fruits are set aside for facing the boxes and 16 berries are usually employed for facing the first grade and 20 to 24 berries for the second grade. As the fruits are graded and placed in clean boxes they are packed in a pony refrigerator. These refrigerator boxes are constructed to hold from 60 to 120-quart berry boxes and 20 to 60 pounds of ice. As a rule a few pounds only of ice are placed in the refrigerator when it is delivered to the grower, but enough to keep the fruit cool until delivered at the depot platform. The cost of delivering these berries to the platform is about seven cents per quart. At the platform the refrigerators are opened and inspected by the agent of the growers' association. If the fruit or packing is not up to the standard it is either refused or recorded as below grade. If a case or refrigerator is not filled, it is filled from some other grower's stock. Each grower is given a check or receipt for the number of first and second grade boxes of fruit delivered, and the



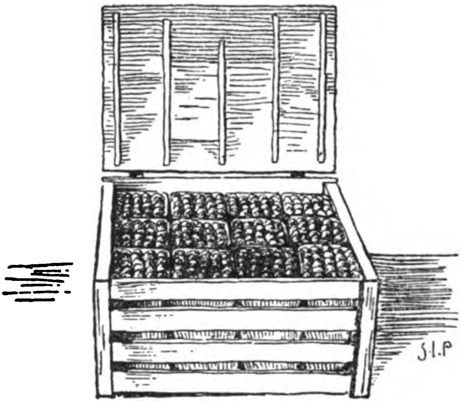
Refrigerator Shipping Case.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)



Ungraded and selected fruit in splint-wood baskets.
1, Not graded or arranged. 2, Selected and arranged.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

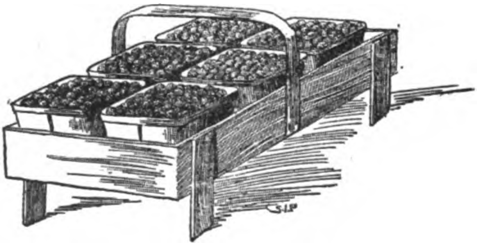
agent of the growers' association is responsible for the proper icing and shipment of the cases.

Lakeland, Florida, is one of the most important of these shipping points, and during the winter months the fruit is taken out each night by special train. The sales and collections are made by the agent of the growers' association and the prices brought by each grower's fruit are posted each day, and as a result there is a keen rivalry for first place.



A slat shipping crate.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

Around Savannah, Georgia, and Charleston, South Carolina, the berries ripen as a spring crop, and the product is shipped in 16, 24, 32, and 48-quart crates. The picking is done by gangs of colored women and children, and the methods of grading and facing are essentially the same as in Florida; however, only one grade is made after the prices begin to fall. As soon as the regions around Wil-

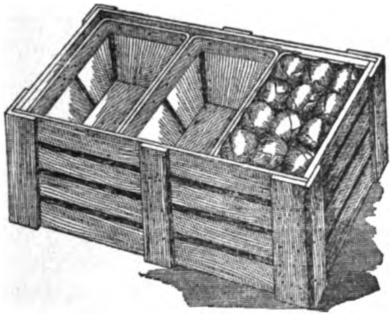


A picking stand.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

mington and Chadbourne, North Carolina, begin to ship, the growers farther south abandon their crop. Several hundred car loads of strawberries are shipped northward each year from the Carolinas alone. Around Norfolk the picking is done during the morning, the crated berries are delivered to the wharves during the afternoon and the fruit is delivered in Baltimore or Washington by seven o'clock the next morning without refrigeration. When the boat arrives the crates of berries are hurried to waiting wagons and taken direct to the commission houses to which they are consigned. The commission men usually have waiting orders for a large portion of the berries, and after these orders are filled, the surplus is sold at auction. In this manner the fruit will reach the consumer within 24 hours after gathering.

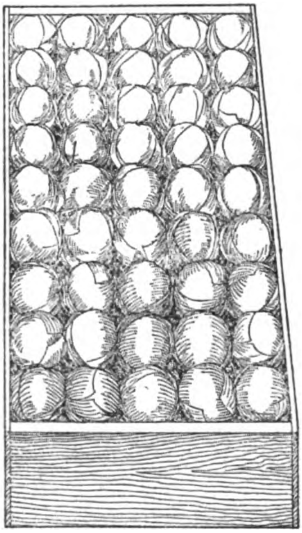
TOMATOES.

The greater portion of the extra early tomatoes are grown within Dade county, Florida. Small areas, comprising in all a few hundred acres, are grown elsewhere in Florida, but the local areas are as a rule unorganized and do not place their product upon the market so early as the Dade county growers. The seeds are sown from September 1st to December 1st, and the planting in the field is continuous from October 1st to February 15th. About a ton of high grade fertilizer is applied per acre.



Six-basket carrier for shipping wrapped tomatoes.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

Picking begins about December 25th, and if the plants are not killed by frost during January or February, picking and marketing continue until the prices break in the spring. The successive plantings provide for continuous picking from plants that are in the prime of production. The common method of packing is in the six-basket carrier crate, and each fruit is wrapped in paper. The fruit is picked before it shows any red color, but after it has become perfectly formed and has assumed a whitish color. The fruits are graded into two or sometimes three grades as follows: "Fancy," containing 144 fruits per crate, standard pack; "Choice," containing 180 fruits per crate, standard pack, and "Gem" pack, containing upward of 180 fruits per crate. The cost of crate, cups and packing is about 30 cents per crate. The express rate to Jacksonville, Florida, is 65 cents, and the Clyde Line rate from Jacksonville to New York is 15 cents. The all-rail freight rate in ventilated cars to New York is $1 per crate. The cost is then $1.10 to $1.30 delivered in New York, depending upon kind of shipment. The cost of growing an acre of tomatoes is about $100, and the average yield is between 300 and 400 crates per acre, or a cost of 25 to 35 cents per crate for growing. It will be necessary then for these tomatoes to bring at least $1.65 above commissions to pay expenses. As a matter of fact they rarely sell for less than $2.50 per crate and last year the highest prices on record were paid, being $4 per crate f. o. b. shipping station; this was due to the fact that the greater portion of the autumn crop was lost from heavy rains.



Flat box packed with wrapped fruits for shipment.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

These growers are now becoming quite well organized and their combined influence has placed their business upon a sure footing.

In Georgia and the Carolinas the tomato plants are started under sash or cloth and transplanted to the open ground as soon as danger of frost is past, and the first fruit follows or, rather, supersedes that grown in Florida. The earliest of the crop is shipped in six-cup crates, later in ⅝-bushel crates. In New Jersey the ⅝ crate with raised cover is used. The cost of these crates is about eleven cents, and the cost of picking and grading about six cents, making a total of seventeen cents per crate at the shipping station. The picking is done by gangs of men and women, and any kind of pail or basket is used. The prices paid for picking is as a rule $1.50 per day, and good pickers will gather 75 or 80 crates.

Basket for shipping tomatoes short distances.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

Two salable grades are usually made. The selling price is sometimes as low as 30 cents per crate, but as a rule is 80 cents to $1, delivered at the shipping station. This fruit is nearly all bought at the shipping station by buyers for the large New York dealers. Shipping is in ventilator cars holding 800 to 1100 crates.

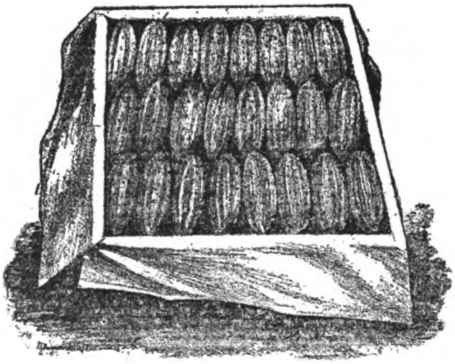
PEACHES.

The peach growers of Georgia represent a good type of producers' organization. In the State of Georgia there are at present about 22,000,000 peach trees. Fort Valley leads the list with 5,000,000 trees, and usually ships about 1,000 car loads each season. The best season—1898—this region shipped 1,800 cars. In the Fort Valley district there are now planted about 12,000 acres to peaches.

The principal varieties grown are Elberta, Belle of Georgia, Wadel, Carmen, Greensboro, and Snead.

Picking is done by large gangs of darkies under the direction of white foremen. The fruit is gathered in ½-bushel baskets in which it is hauled on floats or low wagons to the packing sheds. Here it is emptied upon the grading tables and sorted into three grades as "Choice," "Fancy," and "X Fancy." The package used is the standard six-cup crate. Standard refrigerator cars are used, and these are iced before loading, after loading, and usually once on the way. Picking and packing costs about 28 cents per crate, and the actual cost of packing and shipping a crate of peaches from Fort Valley to New York is about $1. The cost of shipping a car, exclusive of packing, is about $250. The cost of producing, packing and delivering a car of peaches in New York is about $500. During a good year the profits are often as high as 100 per cent.

At the Miller orchards at Paw Paw, West Virginia, the method of picking and packing is somewhat different. Instead of packing and grading the peaches in a central packing house, the work is done in the orchard on portable tables, and the baskets are hauled direct to the cars. The standard ½-bushel Delaware basket with the raised cover is used exclusively. This enterprise is not co-operative in the true sense, but of a company formation and management.



Greenhouse cucumbers packed for shipment.
(After Corbett, Bureau Plant Industry, U. S. Dept. Agr.)

The Island, Gypsum, Co-operative Association, of Gypsum, Ohio, is a strictly co-operative growers' association, and its success is due largely to the energies of one man, who serves as manager. The growers of this association aim to produce a fancy grade of peaches, and the marketing is all done through one channel.

CUCUMBERS.

The earliest Florida cucumbers are shipped by express in ¾-bushel hexagonal crates. The product of the coast region north of Florida and including Norfolk, Virginia, is handled mainly in ⅝-bushel or bushel hampers. A refrigerator car contains 550 to 650 of these hampers.

LETTUCE.

Palmetto, Florida, is one of the largest shipping points for early lettuce, and the daily output during February and March is from 6 to 12 cars. The lettuce is packed in ½-barrel hampers and costs about 90 cents per basket to pack and deliver to New York. The lettuce growers around Palmetto are organized, and all management of shipping is conducted by the representative of the growers' organization. The greater portion of the early crop is bought by dealers when delivered at the cars.

Large quantities of lettuce are produced around Savannah, Ga., Charleston, S. C., and Wilmington, N. C., but the growers of these sections are not organized, and either sell direct at shipping point or ship on consignment.

POTATOES.

Extra early Florida potatoes are shipped in six-cup crates, later in ⅝-baskets or crates, and ¾-bushel cucumber crates, but the bulk of the crop is handled in ventilated barrels. The large or early potato-producing sections of the coast are Atlanta, Georgia, with 120 cars in 1905; the Charleston region, with about 200 cars, and the Norfolk region, with at least 400 cars. The cost of the ventilated barrels is usually 25 cents, and the digging and packing bring the expense to 40 or 50 cents per barrel, according to cost of labor, distance to cars, etc. The freight on potatoes varies from 25 cents to $1 per barrel.

ASPARAGUS.

While the asparagus growers around Charleston, South Carolina, have no definite organization, there are but a few large growers, and they are well established with the trade. Asparagus is graded into three grades, packed 24 bunches in a box and labeled "Fancy," "Prime," and "Medium." The cost of delivering a box of asparagus to New York is about $1.25 to $1.40, according to cost of cutting and bunching.

CABBAGE.

This crop is produced during the entire winter in Florida, and shipments are made from time to time. Considerable early cabbage is grown around Savannah, Georgia, but the bulk of the early crop is produced in the vicinity of Charleston, South Carolina, and Norfolk, Virginia. In the Charleston area during the past year there were planted about 5,500 acres of early cabbage and at least 5,000 acres in the Norfolk region. Perhaps the best illustration of co-operative production and marketing is found at Meggett and Young's Island, South Carolina, where about 3,000 acres of cabbage, 900 acres of potatoes, 500 acres of peas, 600 acres of cucumbers, and smaller areas of beans, beets, lettuce, asparagus, etc., are produced annually. This vast enterprise is managed in the form of a co-operative farming scheme with an organization as a company, the farmers holding a large share of the stock. In the management of this enterprise the production of early cabbage is given first consideration. Forty to sixty acres are devoted to plant beds alone and 900 to 1,100 pounds of cabbage seed is used. The seed is sown about October 10th and the plants set in the field from December 15th to 30th. In preparing the land about 1,500 pounds of high grade fertilizer is drilled in under the row. The plants are set on ridges and the planting is rather poorly done by gangs of darkies, but a good stand is usually secured. Early in February it is desired to start the cabbage into active growth, 700 to 1,000 pounds of fertilizer is applied, drilled into the sides of the ridges where it will be available to the roots of the cabbage. About two weeks later a similar application is made to the opposite sides of the ridges.

Cutting begins about the 10th of March and continues until the whole crop is gathered or the prices become too low for profit. The first shipments are made by express, then in refrigerator cars and later in ventilator cars. The fields are gone over two or three times a week and the heads cut as rapidly as they will do for marketing. As the heads are cut they are thrown into a cart and drawn to the numerous packing sheds where they are dumped on the ground. The crate used for packing is 11 x 20 x 39 inches inside measurement with a central partition, is constructed of 5/8 and 3/4-inch lumber and costs about 11 cents in the flat. This crate holds about the same as the ventilated barrel and requires from 55 to 110 heads to fill it. The usual pack is about 80 heads to the crate. The freight rate by rail on these crates is 65 cents to New York and 25 cents additional to Boston. The cost for crates, packing and loading is about 35 cents per crate; this in addition to the freight and commission brings the cost, delivered in New York, to about $1.10, thus making it necessary for the sale price to be $1.20 or upward per crate to meet expenses. The actual cost of growing an acre of cabbage, exclusive of supervision, is about $125 and the yield the past season was over 250 crates per acre. The prices were good and averaged $1.25 per crate, or $312.50 per acre above shipping cost, leaving a net balance of $187.50 to cover interest on investment and supervision. The crop of corn grown on the land during the summer will pay for maintaining live stock, buildings, etc.

All parts of the plantation are reached by railroad tracks, and the packing sheds are located at convenient intervals. During the height of the cabbage shipping season the Young's Island branch of the A. C. L. railroad, which is only about seven miles long with 25 or 30 miles of spur tracks, sends out from 80 to 125 cars daily. The total paid for freight and express charges on all truck shipments from Young's Island and Meggett during the season of 1906 was about $850,000, and for the entire Charleston area upward of $1,500,000. In addition to the regular shipping of truck, the growers around Meggett and Young's Island produce large quantities of plants which are shipped by express to all parts of the South. Shipping by water from Charleston to New York and Boston is not a common practice owing to the fact that there are so few regular boats and that the docking charges in New York are almost prohibitive.

The Norfolk region has great advantages in the water shipping rates and facilities. The distance is such that most of the products can be placed upon the markets without refrigeration. The Norfolk truckers also have an advantage in being located on the salt water and are in position to deliver their products direct to the wharves by means of barges, launches and sail boats. In this region we find suitable conditions for individual enterprise. One grower at Norfolk is making a success with early cucumbers under sash. This grower is handling only three acres, but his returns are greater than is often received from 60 to 100-acre places. The Norfolk growers are in relatively the same position as the local grower who can haul his produce to market in a wagon, and their produce reaches market in so short time that there can be no question regarding its freshness. There is, however, one important organization at Norfolk, known as the Southern Truckers' Association, which markets the produce shipped by its members. With this exception, the Norfolk region is representative of the individual type of management.

Essentials of a successful co-operative organization are, comparative uniformity of cultural methods and product of the several members, uniform methods of packing, and unquestionable adherence to the Association at all times. It may be that the prices received through the Association for a given period are lower than those offered by some local purchasing agent, but in order that the ultimate benefits of united management may be realized it is necessary that the members should stand by the Association. The growers of Maryland are within the distance of the large markets of the Eastern States, in which individual marketing can be successfully accomplished, but there can be no doubt regarding the desirability and advantages of organizations. This State is destined to become, in fact, is, already one of the greatest horticultural areas in the country. With its thousands of acres of sandy loam that lends itself readily to improvement, the production of truck crops and fruits is only in its infancy. With one of the best markets of the Eastern States within its borders, and both water and railroad facilities that place most of the fruit and trucking lands within 24 hours' shipping distance of New York City, we have every reason to believe that the increase in both demand and production will be very great. We also believe that there are advantages to be secured to the growers by co-operative organization, but the form of organization must be determined for each set of conditions. Five dollars will not have great influence in securing the rights of the grower and shipper when dealing with the transportation and selling interests, but five hundred or one thousand times five dollars will cause the transportation companies to provide special facilities for the loading and handling of produce, and will place the growers in direct touch with the retail dealer and the consumer. Live and let live is a good policy, but this does not imply that we are to stand idly by and see others grow rich from the earnings that properly belong to us. The difference between the price paid the producer and the price paid by the consumer is in many cases entirely too great. This is due to two causes, namely, too many hands through which the product must pass before it reaches the consumer, and excessive charges for transportation and handling. The railroads of the Southern States are to-day entirely inadequate to the task imposed upon them. Georgia peaches are supposed to reach New York in 30 to 34 hours after starting, but as a matter of fact very few consignments arrive in less than four days. The improvement of existing conditions must necessarily come gradually and will require the confidence of every man who may be interested either directly or indirectly.

The President: We would be very glad to hear from Mr. Vincent.

Mr. Vincent: *Ladies and Gentlemen:* Yesterday I was not very well, and am not feeling much better this morning, and am, therefore, not much in a condition to talk to anyone; but cannot resist the temptation that would come to anyone, to talk to you, my fellow coworkers. However, in listening to me, you must consider that you have before you a plain ordinary hayseed, and you can't expect much of a talk from that source. I am a plain practical florist—in one word, and the expression "by your work shall ye be known" I prefer to that of "by your talk shall we know you," for I think I am known better by my work than I am by my talk.

We heard yesterday a great deal said about the work of agriculturists and horticulturists in their attempts to make two peaches grow where one peach grew before; where two apples were made to grow where one did before, and two blades of grass grow where only one did before. I am not trying to make two peaches, apples or blades of grass grow where one did before, but am trying to make two flowers grow where one did before, and those two to be brighter and better than ever. I am trying to make of this grand old State of Maryland one of the prettiest and most beautiful spots on the face of God's green earth, and I believe I could not have selected a better State or country for the purpose, for I have found it—as we were told yesterday—to be capable of anything reasonable that we put in the soil of this rich State.

I am a member of an organization a number of the members of which are here with you to-day. I refer to the Florists' or Gardeners' Club of Baltimore City. You heard one of its members address you yesterday from the stand at Mr. Harrison's home. He made an interesting address to us all, but I am afraid he did not go quite deep enough into it. He did not tell you of the wonderful work the florists of Baltimore city are doing for the State of Maryland and for the city of Baltimore. Not only that but this: In beautifying the city of Baltimore as we are doing, we are showing the people of your business center what the possibilities are of horticulture in this State from the florists' standpoint.

Yesterday we witnessed the wonderful work our friend Harrison is doing over here in Berlin; but I want to tell you, my friends, that still more wonderful is the work along the lines of horticulture that is being done in the city of Baltimore. You will find there, as we found in Berlin yesterday, the result of work born of the broadest intelligence with which mankind has been endowed.

We, the florists of Baltimore, are doing something; we are going onward and upward with the fruit men, you farmers and tillers of the soil; we are already united in at least one endeavor, and that is to take advantage of the blessings offered us by the soil of our grand old State, to develop it, and to take from it its riches, ever reproduced for our benefit from year to year.

And I want to do my little all to make this State beautiful, and to find it, to conceive ideas and nourish thoughts that will work out to that end—to make it the garden spot of the universe—a fit habitation for those who appreciate it as such—and we are those—the very best people in this vast world of ours.

Another thought, ladies and gentlemen, before I go on. I had two main subjects I wished to discuss, if I have time to get to them, Mr. President——

The President: You have plenty of time.

Mr. Vincent: I thank you—but, first, there is one side of our discussion that was crowded out yesterday, and I don't want to leave it out myself this morning, for if any subject we are capable of discussing is worthy of discussion, it is this one: Yesterday there was nothing said about the flowers of our homes whom we had with us yesterday—nothing said of their beauty, or their worth to us, not only as horticulturists, but as men; yesterday there was nothing said about womenkind—I don't mean that kind out there (referring to the bathers in the surf)—I refer to the grand, practical farmers' wives, the real flowers of earth, the most beautiful to our eyes that live and have their being in this, our garden spot, Maryland. They are the brightest, sweetest, most beautiful flowers, and our homes would be dreary without them.

Although on yesterday, even when our hosts' home was graced by their presence, the woman side of the question was entirely left out, this morning you get a full dose of them both.

Now, I think I have said enough about the florists and florists' club. This is the second time I have had occasion and the privilege of talking in this section of the country. On the previous occasion I attended, also, a meeting of the State Horticultural Society, in Berlin, Maryland, where we were yesterday, and I had a competitor in Baltimore who was also present. He found out I was there, and was there himself ready for the fray. He had read up on every subject there was to talk about. He read a big paper, and covered all the subjects, so that, in consequence, when I came to talk there was nothing left for me to talk about—only one subject, and that was—cabbages; so I took up and went through with the cabbage end of it myself.

Last year at our State Horticultural Society meeting, the subject of a hall for exhibition purposes in the city of Baltimore was brought up, and I am going to bring it up here again this year. We want an exhibition hall in the city of Baltimore—a hall where you can send your fruits and other products; where they can be kept preserved in their fresh condition and exhibited to the people in order for them to see and know what the people of the State of Maryland are growing. I want to take my flowers there and exhibit them. We want a place where the minerals and such like resources and the products of our mighty bay with its wonderful capacity to feed millions with its water products, and all other resources of this great and wonderful State (for she is great and wonderful) can be shown, and we want a hall where all these exhibits can be sent; and when strangers come into our State and ask "What have you got in Maryland?" we can take them to this hall and show them. When they come to Baltimore they are shown various buildings in the city, but that does not show what Maryland can produce; that does not show to them the true resources of the State. If it were not for the farmers of Maryland they would not be there. I mean it. If it were not for the work of the farmers of Maryland those buildings would not be there. Those men in the city may think they do it all, but I tell you there would be small potatoes there and few in the hill if it were not for what we do.

I think we are entitled to some recognition, that it is due to us, and that we should have one of the finest buildings in the State there where we can exhibit the good work which we are doing and the good we have done all along, for the State. She is paying hundreds of thousands of dollars yearly for offices, and for buildings scattered about throughout the city—no home. We should have one that would answer for all purposes. We should be recognized to that extent. And right here, my frineds, I want to say that our friend, the Honorable Mr. Harrison, has done all within his power last year in the Legislature to bring about this situation,and bring this matter to a head; but, gentlemen, no one man can accomplish a thing like that. He needs our help. There was not enough behind the move. A small committee, with your State Horticultural Society behind it, and all those interested, should join forces and push something of that kind. Get our men together and get them to work, and we will have a building in Baltimore not only worthy of the city of Baltimore, but of the entire State of Maryland. We need, my friends, your co-operation to bring this about, and then when strangers from other States visit ours, we will all take a pride in showing to them the accompl ishment of our purpose in this regard; we will not only be able to show to them our building—a monument of appreciation by the State of our enterprise and worth—but we will be able to show them its contents—the everlasting proof of the superiority of our Maryland soil, backed by the brain and strong arm of hers ons. Will you come forward and help us with your unstinted assistance to accomplish this? And then the cry can well be, "Maryland, my Maryland, forever!"

ANNOUNCEMENTS

PROF. T. B. SYMONS, *Secretary*.

Ladies and Gentlemen:

Before we hear from Professor Waugh and Professor Hutt, I wish to express my appreciation to all present, of the fact that you are present; and I want to ask you in all earnestness that you and just one other person with each of you—that is to say, that each one of you present at this meeting will kindly obligate himself to bring one more person to our winter meeting in Baltimore to be held there on December 5th and 6th.

We must have a large number of horticulturists present then; and if they are to be present, it is you that we all look to to bring them and have them present with you.

In the announcement that has been sent out, you will note that there are $500.00 offered in prizes. We are compelled to have an exhibit—and a good one. We had a good exhibit last year; we are going to have a better exhibit this year; and we are depending upon each of you to help us in getting this exhibit together: I think you will agree with me that the money prizes that are offered are certainly—or should be a sufficient incentive, outside of even the other valuable considerations, to any of you to warrant your taking the little trouble that is required of you in getting together some of your best fruit—only a small amount of it is necessary—and in sending it to the cold storage. We pay the expressage and put it on exhibition in your name, and in case you take the first prize we give you money. I think they are certainly very liberal terms, and believe you agree with me. We only ask you to look over your fruit in the orchards and pick out a few of the best, all through the summer and fall, put it in a box and send it to "Cold Storage, Baltimore."

I earnestly ask that you help us all you can in this exhibition, to make it the success I predict it will be; that all of you will now make it a point to say: "I am going to have something in that exhibit." Address your boxes to the "Cold Storage Company, Number 408 South Eutaw Street, Baltimore," although "Cold Storage Company, Baltimore, Md.," will suffice. I also ask that you send to me a list of what you send to cold storage. Remember this: If you will send me the express receipt for the money you pay the express company—sending your boxes to Baltimore prepaid—I will refund to you the express charges.

Another thing I wish to call your attention to is, you will note from the schedule of prizes mentioned in the announcement, that county prizes are offered. This is indeed an incentive for each county to be represented in the exhibit, and an incentive for each county to attempt to outdo the others in Maryland in their exhibits.

All of you can raise fruit; most of you raise good fruit, and we should have all the good fruit represented in our exhibit in Baltimore next winter.

Through the courtesy of the Board of Control of the Fifth Regiment Armory, we have secured space there for the exhibition and for our meeting, so that we will be all together; that is to say, we will have the exhibition and the meeting at the same place. This is more desirable than having it separated in different parts of the city.

I also ask that the ladies consult the announcement and that they put up some fruit and have it at the exhibit—jellies and other fruits they are so successful in preserving. The ladies' efforts and their presence add materially to the enthusiasm of our meetings, and they are also influential in having the men come along with them, if they were not otherwise inclined to come. We need the ladies with us; we need their co-operation and their work in the development of the Association; and, as welcomed as anyone else, will be the boys and the girls, whose interest in the pursuits of their fathers would be broadened by their presence at our meetings. We wish to make the meetings interesting to all who have to do with agriculture and horticulture. In fact, it is my purpose, in arranging the program of our winter meeting in Baltimore in December, to anticipate as far as possible what will most benefit all those concerned; that is to say, the men who represent the gardening side of horticulture, the men who represent the truck, the fruit-growers, the florists, and all others, with a view to all concerned gaining some substantial and practical benefit and information from attending the meeting.

I earnestly request that every one of you come to the meeting in Baltimore and bring as many others as you can with you. Make it a point to bring at least one other with each of you when you come.

You will be enabled to get reduced fare, and I am sure you will get valuable information and derive great benefit from your attendance at the meeting.

Come; and by all means save us some of your fruit this summer and fall.

THE BUSINESS OF TREE-PLANTING.

PROF. F. A. WAUGH,

Massachusetts Agricultural College

Ladies and Gentlemen:

I am very glad to see you again, and am indeed sorry that I was a little late, especially as it seems you have been waiting for the people who came on that train this morning.

It hardly seems as though we should take up the time this morning with cheap talk such as the nonsense I may have to offer you. Surely there are a great many other attractions here at the Beach, probably as urgent if not as intellectual as those in here. At any rate, if we were in a position to settle down to a serious business session, I would hardly be the one to take up and discuss for you the subject of technical horticulture, such as your Society discusses, and present it in a manner that would really be instructive and helpful to the men who compose this Society.

I am impressed every time I come down here with the improvement and the refinement of the methods being employed in Maryland and Delaware. I have been pretty well acquainted with the Eastern Shore for about ten years and I have seen here many practical improvements in horticulture in that time. Of course, there is a great deal on this subject I could talk about, but evidently you folks have the business very well in hand, and it would be unbecoming in me to come here and attempt to tell you how to do your business, even if I knew how to do it. But I am willing to say frankly that I do not know how to do it. Your business is quite different from ours; and if there is anything I can say that may be of any interest or of any help to you it will be along a different line. It cannot possibly be in the direct way of telling you how you can improve your business, because, as I have said, that is a matter that you yourselves have well in hand.

But when my mind turns to the matter of making comparisons between your business and ours, I really feel myself that neither you nor our folks know it all.

It is said in the Bible that after God made the earth he looked at it and pronounced it very good. There are a good many people in this country who think that when He said that He was looking only at the Eastern Shore of Maryland; but I have an idea that He was looking at the whole earth when He pronounced it good. I have been over a considerable portion of the world myself, and am fairly well acquainted with many different districts in all parts of the country, and to my mind they all have points of excellence; they all have points of prominence. Week after next I am going to talk to the horticulturists in Canada, and it would not be well for me to go there filled up with Eastern Shore talk. I cannot afford to make an Eastern Shore speech in Canada. We should say what we think everywhere, for greater benefit is derived by others as well as ourselves from doing that. In Canada—you might say at least in some of the provinces or districts there—a foreign language is spoken and you hardly ever hear a word of English; but, even in those districts, it is a good country. They grow lots of fruit there and money is made out of it, too. In the way of government regulation and legal supervision of the shipping and packing business Canada is far ahead of anything like it in this country, and away ahead of anything we are likely to reach, because we are not organized politically or socially in a manner which will enable us within a great many years, if ever, to adopt such principles as they have adopted there.

Now, I live in a country where a lot of Yankees come from, and I make claim myself of being a genuine Yankee, though I was born in the West and spent my boyhood days there; yet I am a Yankee by adoption, and whatever patriotism I have for Massachusetts and New England is unbiased, but founded upon my own experience with the country and with the people. I am not going to spend your time in telling you of the glories of New England; but there are one or two things which I think it is fair to mention which may possibly be suggestive to you.

In the first place, I think we all ought to understand that these two sections of the country are coming closer together in every way as time goes on. They are getting to be more and more alike. Why, they tell me that Maryland sometimes votes the Republican ticket, and the most eminent Democratic Governor of the last decade has been the Three-dollar-shoe man—Governor Douglas of Massachusetts; so this shows that politically we are not very far apart, and socially and industrially we are becoming more and more alike.

As this country increases in population and in wealth, and as its manufacturing industries increase, it is bound to become more and more like Massachusetts; and as our farmers awaken to their opportunities and understand more and more about the culture of fruit, and the professional methods of growing and handling fruit, they are going to be more and more alike all over the country. If I am to make a comparison between our situation and yours, I might say that our markets are very, very different from yours, and without discouraging the enthusiasm and patriotism of the Maryland people, I think I can safely say that they are a great deal better than yours. They will absorb a great deal more fruit and vegetables, and they certainly bring higher prices to the farmer than you can possibly obtain here. I am told by men in this part of the country, by men in the Georgia peach belt, and in Florida, that the best fruit market they have is Massachusetts; that if they have an extra good car of strawberries or peaches, they ship them to Boston. Boston is the market of our farmers, of our growers; and a great many of them are located within only ten or twenty miles from that city.

As a consequence many of the growers are enabled to eliminate the middle-man. Theoretically that may not be the right thing to do, but you must consider that horticulturists and agriculturists have found it a difficult problem to deal satisfactorily with the middle-man in disposing with their vegetables and fruit; and I believe you all think and know that that problem is a greater one than the problem of growing the stuff itself.

I know a young man who graduated at our college who has ten acres, and from those ten acres he makes ten thousand dollars a year. He sells all his produce himself from his own wagon—absolutely every penny's worth—none of it goes through the middle-man. His customers pay him their money into his own hand, and he gets the biggest prices for all of it.

A VOICE: He could not sell it that way if he was here.

MR. WAUGH: That's just it; it is because of the facilities for marketing offered by Massachusetts that he is enabled to do that.

Another young man, also a graduate of our college, grows nothing but sweet corn and sells it all to one customer from year to year, and that customer is a restaurant keeper in the city of Boston, while the graduate lives about fifteen miles out from the city. He does not pay any transportation company any transportation charges, but loads it all onto his wagons and hauls it to the back door of the restaurant and unloads the whole lot and gets his money for it.

While, of course, there are a great many men who grow large quantities of stuff near Boston, there are others who sell their produce through commission dealers, or in some other way; yet a characteristic feature of our industry is, because of the proximity to the market, there is a close contact between the producer and consumer, and you can imagine what a favorable feature that is.

Then another element to be considered is that the horticulturist in Massachusetts meets the men of prominence in the industry there. Many of our horticulturists are eminently successful in a commercial way; but a great many of our folks are horticulturists from another standpoint; they are horticulturists from the ground up, and for generations back. They are the most thoroughbred horticulturists you have ever known and the most enthusiastic, for a great many of them do not expect to make a dollar out of it. They do it for the love of horticulture and the good they can do by their knowledge and experiments.

You come here to talk about *commercial* horticulture. There is, I dare say, hardly a man here who has not from ten to twenty thousand peach trees, and he is running his farm and practicing these advanced methods in his chase after the dollars. It is a commercial enterprise with you from top to bottom, and it is a fine one, of course; I am proud of it, and I don't want you to understand me as saying one word against it; but I want to impress upon you that there is still another question in horticulture, and we are not ashamed of that one, either.

I can well imagine that when any one of you find that your financial circumstances are such that you can retire—and do what Brother Brown is talking about doing—and quit active business and your search for the almighty dollar, that the ones who do so retire will not be willing to settle down and let some one else do all the work; that you will not give up horticulture—no, not for a minute. You will have just as much of a desire to continue in the industry, and you will love horticulture just as much as you do now; you will be more zealous in your search to find fine fruits, flowers and fine trees, and you will be just as much interested in this matter, if not more so, than you are at the present time—after you have given up the strife for financial gain. So it is this that I so admire these people in my own State, when I see the work they are doing for the benefit of all the people of the country, without any thought on their part of financial remuneration.

There is another class of horticulturists in between these two classes. These we might call the intermediate class, and consist of the suburban population. There are thousands of men and women in Massachusetts who live in the country but who work in the cities—in the offices or the factories. In that State of ours there are more such families who live in the suburban districts than in almost any other State of the same area. They have a little plot on which the homes are located (and the man usually owns his home), and on this little plot of ground he has his garden, and it is a fine one. He grows fruit, vegetables, flowers, and so forth, always enough to supply his family's wants and often enough to sell some; but the whole basis of such industry and activity so far as horticulture is concerned is the growing of the plants for the satisfaction he gets out of it, and for the good of the family—not for gain.

Now, as I have said, I foresee that the future of that country is going to be more like this, and this country more like that. Some of you men are going to retire some of these days, and give yourselves up to horticulture for the pure love of it, and you are going to build homes like those we have and beautify your places rather than use them always for commercial ends. I expect to come back here within the next twenty-five years and find the home of our genial host, Mr. Harrison, very much changed. As you pass by it on the train, you will not see advertising signs everywhere, asking for business. They are all right; I do not want you to understand me as condemning them; but twenty-five years from now there will be big trees grown up there hiding the signs and diminishing whatever commercial value signs have, and the place will look better, Mr. Harrison will feel just as happy, and the whole neighborhood just as prosperous and joyful as it is to-day; and it will be more like Massachusetts, too.

You can see that the nursery business in Massachusetts is different from what it is here. Mr. Harrison has grown quantities of very fine stock. I need not describe it, for you have all seen it, and it was a great treat for us to go through those nurseries and see what is being done there; but we see peach and apple trees. In Massachusetts it is different. There are very few pear, apple, peach trees, such as we see mostly on Mr. Harrison's place. We cannot afford to grow peach and pear and apple trees in Massachusetts; but you see there, instead, spruce trees, beach, maple—ornamental trees.

I do not suppose there can be a more striking comparison between the horticulture of the two districts than can be drawn from the experience of Mr. Brown here, with whom I was talking this morning. Here he is, selling spray pumps for the people in this country to spray peach and apple trees, and I hope he will sell you several carloads of them; but every one he sells is going onto some farm or nursery to spray commercial crops to make money for somebody; and if they do not make money Brown will lose his orders. He was up in our country the other day, and he sold some spray pumps. He tells me that a friend of mine is now running twenty of the pumps, not one of them being used on a fruit tree or a truck crop. Every one of the twenty pumps is being used to spray trees along the avenues and streets—not a dollar in it for anybody, or a dollar to be made out of the enterprise anywhere. In the end I understand Mr. Brown is to make something out of his pumps and sprayers, but not so the men who own the trees and are spending their money right along. Every tree they have is an expense to them every year. There you have a big enterprise carried on with great thoroughness and with the best of business sense, but entirely for a purpose other than financial remuneration. So you will see from that there is a strong enough contrast between the horticulturists of the two sections.

I wish you could come up there all together and see that country. I know a good many of you have been there; I know a good many of you have been to many places where I have not been and you are acquainted with all of those places; but I assure you that we will be very glad to welcome any of you in our State at any time.

Now, Mr. Chairman, how much time do you want me to spend?

THE PRESIDENT: All the time you wish to use, professor.

PROFESSOR WAUGH: As I said a while ago, it hardly seems worth while to take up your time with this talk, because you have more profitable ways of spending it. It was understood when I came here that I was not to be considered one of the big guns of the battery; that there would be other men here to fire the heavy ammunition. Prof. L. C. Corbett and Prof. John Craig were to handle the heavy artillery and the big guns, but I have not seen them, and if you really desire to hear any heavy discharges those men should be summoned. It was expected only that I was to sandwich in the time and attempt to entertain the crowd during the intermissions. I am not used to throwing heavy shells, being only a 22-calibre and shooting BB caps most of the time.

One of my friends on whom I expected to tell this story, and who does throw heavy ammunition, had an experience of this kind in the neighborhod of New York city which was rather amusing, and which shows that the big guns sometimes get into trouble, too. He went into the country to Grafton, New York, to lecture, and when he got there there was only one place he could get in to deliver his lecture and that was a church, and the church was not in very good repair. They apologized for it, but he went over and delivered the lecture there very well. The local paper had an item of news about it that read something like this: "The Reverend Doctor Brooks has gone away on his vacation. Professor So-and-So lectured in the church on Tuesday night, and it will now be closed for six weeks for repairs."

Now, I never do anything of that kind, but such things sometimes reconcile me to some extent to handling the small ammunition I use.

There was no subject assigned to me for this day, but the thing I expected to talk about was the business of tree planting. That was suggested to me by several different things, but the most important of them was the fact that our meeting was to be held on the ground of one who is engaged in promoting tree planting—a man who encourages tree planting wherever he goes.

The whole business of tree planting will appeal to anybody's imagination. Tree planting is always an expression of hope, and hope is one of the best things in life. It is one of the things that separates us from the lower animal life—our hope for the future; and a man who plants trees expresses his hope for the future. It is a concrete expression of one of the best elements of our human lives. The man who all his life is planting trees is all his life nourishing hope; he is looking forward to something better.

Tree planting is a species of philanthropy. When one plants a tree he knows that he cannot have all the fruit from that tree; he is certain that a part of its product will not be his, but that its bounteous yield will be for some one else. When a man plans a crop of tobacco he expects he is going to get the benefit of it all—of the entire crop; that he will get money from it, and that he can spend that money. At the close of the year the crop is entirely gone; there is no hereafter to it. But a man is more or less philanthropic when he plants trees.

Did you ever think of our different forms of agriculture being graduated somewhat according to the extent to which the dividends are deferred? The longer a man has to wait for returns from a particular crop the more energy and backbone, nerve and hope it takes to plant that crop; so that the man who waits the longest for returns is bound to be the man who will have the most grit and faith in his business. That is why you men come to these meetings here of this Society—the very cream of the country.

There are good reasons why we should be planting trees all the while. In the first place, we have to plant trees in order to overcome the loss of trees. You folks know that there are probably fewer trees growing on this peninsula than there were ten or twenty years ago. I think I am strictly correct in saying that only about half as many trees are growing on this peninsula now as there were ten or twenty years ago, and in making that statement I make it as a result of the study of statistics that I consider most reliable. Where have they all gone to? I know where some of them have gone to. I was down here last winter, through this country, and I saw a great many of them in bad condition, and I came through here in May and I saw them dug out and burnt; and more of them that should be dragged out; and I don't know but that some of their owners ought to be dragged out. It is plain where some of them are going to.

A tree does not last always. There is a constant loss of trees, and we ought to plant in order to make up this loss, to offset the actual loss of fruit trees. You know, as I do, that there is a shamefully small percentage of trees that are planted that ever grow to produce fruit at all. I think it was Professor Smith who looked up this question for the State of New Jersey once, and while it is not now so fresh in my mind, I think I am correct in saying that he proved beyond a shadow of a doubt that of the nursery trees planted out there was not one in ten that ever gets to be an orchard tree; so that it seems to me that we ought to plant trees more bountifully, and not only that, but take care of them after they are planted, in order to make up for and overcome not only the natural losses, but the unnatural and unnecessary losses of the trees planted and never cared for.

We ought to plant trees for the cash profits, and what I have said here in favor of planting them purely for the cause of horticulture cannot be misconstrued to mean that I advocate that in preference of planting trees for cash returns. There are a great many men in Massachusetts and elsewhere who are in the business for the fun of it and for the glory and pleasure they get out of it; but there are also a great many men in all parts of the country who are not in the business for the fun or glory of it, but for the cash returns they get out of it.

Tree planting is the real beginning of fruit growing, and it is of extreme importance to begin right. There is one thing I really think it is worth the while for me to refer to, and that is a word with regard to the source of nursery stock. I do not know how strong is the prejudice here, but everywhere there is a certain strength of prejudice in favor of locally grown stock. In our country, where the climate is fairly rigorous, and where it is understood that trees and plants and men and women become more hardy than in other parts of the country, there is a prejudice against anything that is not strictly home grown; so that you will find a great many of our planters insisting upon having home-grown trees to start with. You will find people in every part of the country have the idea that trees grown in their particular locality are better than any others to be planted in that locality, because they think they are better adapted to the particular place in which they are to be planted.

Now I admit there is something in that, provided you get these trees from the nursery and plant them fresh; and there is much in dealing with a man whom you know, and who is your neighbor, whom you can go to and talk over matters and settle up any differences that may arise or any misunderstandings, without consulting the claim agents and railroad officials. These are real considerations, but I know that from my experience there is absolutely nothing more than that in the prejudices that exist so invariably throughout the country. I have been planting trees for the last twenty-five years, and have been planting all kinds of trees, from all parts of the country. I do not know that there has been a year within the last ten years that I have not planted trees grown on the Eastern Shore of Maryland, from Canada, Iowa, Texas, Kansas, and from every other part of the country almost, and they have been planted in the space alongside of trees from England, France, and Germany, and other parts of the other side of the world; and I have been absolutely unable to see anywhere any difference in the trees from any particular locality. I have been absolutely unable to see anywhere any preference from any particular locality.

While I say the people up where I live have a prejudice in favor of northern grown trees because they say they are hardier, I can say most emphatically that trees grown on the Eastern Shore will stand in Massachusetts right alongside of the Canada-grown nursery trees and do just as well as they will every time. The locality in which they are grown, to my mind, makes no difference whatever.

There are some things to be considered about getting a good tree, though, which we have not learned yet. We have driven through great areas of finely grown trees, and we have admired them very much; some of us will buy some of them and plant them, and I do not expect any of us will be disappointed in them. I do not think there is a nursery in the country in which more advanced methods have been adopted, but there is one thing about all nurseries that the planters have not yet considered in buying their trees. We go to the nursery and we buy so many York Imperials, so many Baldwins or whatever they may be, and the man delivers us so many of each kind we specify, and we are satisfied. If they are free from disease, if they are of the grade we have ordered, and are of the variety we have specified, we are satisfied. But it is not going to be many years before all advanced planters will insist upon knowing what kind of *stocks* these trees are grown upon, because every one of the nursery trees has two parts, the top and the bottom, and both of them do business. Because one part is above the ground and we can see it we are in the habit of neglecting that portion below the ground—that part that is working for us night and day—we forget that part of it. That portion of the tree is as important as the other; and the time is coming, I assure you, when we will have more thought of that portion of the tree that is below the ground than we have of that part that is above the ground; and when we go to the nurseryman we will not only say "We want such-and-such varieties;" we will specify not only the kind of top but we will specify the kind of bottom the trees shall have.

However, until we do that the nursery business is going to go on in the same old way as it is going now. It is to the nurseryman's interest to grow stock as cheaply as practicable. It does not make any difference what the roots are, just so the trees look good, and the nurseryman is going to sell you the cheapest stock he can so long as it is up to the specifications you make. So that hereafter if we want a certain kind of stock we will have to put it in our specifications and order it accordingly.

Let me take up one or two concrete examples: I suppose you know that in a great many parts of this peninsula the fruit growers who grow the Japanese plum always grow them on a peach stock. I suppose they know what they are doing here, but in our section of the country I would not have Japanese plums on peach stock. The peach stock is absolutely worthless for plums in our section; but in this soil you know what is the best to do with it. Up in our section we grow peaches on plum roots—just the reverse. Now, there is a difference, and I believe in many cases the difference is a vital one, even to the extent of being in one case a profitable orchard and in the other a complete failure. I know in our section plums grown on peach stock would be a failure. Notwithstanding these differences, I venture to say that, as I know Mr. Harrison will tell you, there is not one man in a thousand who, in sending in orders specifies the kind of stock the trees are to be on.

Now, here is another thing that personally came to my attention within the last few years: the matter of stocks for apple trees. The most of us do not think there is any difference in these stocks, and as we buy them ordinarily from the nurseries they are all pretty much alike; but theoretically there are all kinds of stocks. I have been experimenting with what is known as the Paradise and Doucin stocks which produce the dwarfing of the ordinary apple tree. Over in New York State they are experimenting on an extensive commercial scale in the use of this stock for apple trees; and in the next twenty years I predict you will see quantities of this stock in use. There are good reasons for it: the trees, in the first place, come into bearing earlier—sometimes five years earlier than the same varieties will on the ordinary apple stocks. The trees are just as healthy and the fruit just as fine in every way as it is to-day; the trees are made smaller than they can be made on any other stock, and more of them can be planted to the acre. Understand, I am not recommending this stock, but it is becoming known in various parts of this country and is being used more and more.

Now just a word about the experiments I am conducting myself: In this country, generally, they tell me that apple trees should be planted thirty-five feet apart—about thirty-five to the acre—and peach trees sixty to the acre. But I have a little orchard—a small one; it is only about a quarter of an acre in size; you would not call that an orchard down here; but we will call it an orchard now for the sake of the trees that are on it; they are permanent trees and are planted at the rate of 2,500 to the acre, and they are doing well, three crops having been taken from them. Mr. Brown has been there and has seen them. They are planted six feet apart, and they are all bearing trees, fine ones. You can spray them easily and prune them conveniently, and do anything else you please to them, because they are not more than six or seven feet high.

Now I hope you all understand that what I say is merely thrown out by way of suggestion, not as recommendation for commercial adoption, because, as I said in the first place, I know I am not able to give you any practical instruction—to men who understand their business on this shore as well as you folks do.

We find everywhere a great deal of discussion, pro and con, with regard to the different methods with which fruit trees are propagated; some say the root grafting is better, some say otherwise; but I doubt if it all makes any difference. As I have said, I think the stocks do make a difference, but beyond that I should say it is a matter of getting sound trees at a reasonable price.

I know that in this section you are in the habit of buying good trees at reasonable prices, but one of the great general difficulties is being able to get really good trees at anything like a good price, or a reasonable price; often seventy-five cents and a dollar each is charged for apple trees. I admire the nerve of the man who can do it, but I do not admire the man who pays such a price. When I hear of such things I think of the experience of old Doctor Branch, in our town, when a stranger came to town and asked for a prescription. He was all run down in health and he wanted help, and asked the doctor for a prescription without pay. The doctor wrote out the prescription and told him to go and have it filled and he would be all right within a few days. The man asked: "Doctor, how much will it cost me to get this prescription filled?" and the doctor replied: "Well, that ought to cost about $1.35 to fill that prescription." "Doctor," the man said, "won't you lend me $1.35 for it?" The doctor looked at him for a moment, and said: "Hand that prescription back to me." He took it and took out a blue pencil from his pocket and ran blue lines through a part of the prescription and handed it back to the man and told him that as the prescription then stood it would cost but 10 cents to have it filled, and he added: "What I marked out there was for the nerves; I do not think you need that part of it."

There has been a great deal of discussion as to the best time of the year to plant trees. In that respect I would say that the time to plant is when you are ready. Then follow up your planting by good hard work to make the trees grow well. When you learn how to do a thing, and do it thoroughly, it doesn't make much difference just when you do it. There was a fellow in Utica, New York, who was brought up with horses and who kept a large stable. He took a notion to buy automobiles. It was a new thing to him. He knew about horses, but he didn't know about automobiles. He had an Irish hostler by the name of Patrick. Pat also knew horses well and had handled them for many years, and he loved them. He was heartbroken, therefore, when the head of the house got the automobile craze and sold off all his horses and bought three or four big automobiles all at once. Pat thought he had lost his job and it was too much for him. His employer noticed his despondency, and said to him: "Here, Pat, is two hundred dollars. Go and learn the automobile business and you may stay with me as long as you want to and I will put you in charge of the automobiles." Finally Pat went to an automobile school in the city, and after two months he came back with his new uniform, and Mr. McClellan, his employer, asked him what he had learned.

"Everything, sir," Pat said.

"Do you know how to start and stop them and run them forward and back?"

"Yes, sir."

"Do you know all about the different kinds of levers, the steam exhaust, and so forth?"

"Yes, sir."

"Do you know how to keep them in repair?"

"Yes, sir."

"You know all about them, then?"

"Well, Mr McClellan, I know all but one thing about them."

"And what is that, Pat?"

"I don't see what makes the thing go without horses."

Well, it is pretty hard, when a man is raised with horses, to see how an automobile runs without them. Likewise, it is hard for a man not brought up with trees to see what makes them grow.

But to come down to the practical point: As to the time of planting, the soil as well as the climate has a great deal to do with the whole thing. There are some kinds of plants that do well in one climate and soil, if planted at a certain time of the year, that would fail if planted at the same time in another climate or soil. It is simply a question of when the climate and soil are suitable, and that is readily determined in every section. Some say that spring planting is the best; but many horticulturists and nurserymen say fall planting is generally the best. Some wait until along in March, some May and June.

In setting out to plant trees, one of the great primary considerations is the selection of the varieties. I have been so rash as to deliver an entire lecture on the selection of varieties. I think that is a very important consideration; but as I look the whole ground over I cannot believe that the matter is of vital importance. I know of some men who have made a lot of money out of peaches and apples, and men occasionally strike it rich by having a particular variety; but success usually rests upon something else rather than on the selection of varieties; it rests upon the culture, a good start and systematic management, a good market, and good business ability in marketing—in fact, I think success depends more upon these elements than it does upon the selection of the trees themselves.

I wish I had time to say something about the planting of trees, but there is not much time for it now. It is a most interesting subject, but you know about as much about that as I do. There are various ideas upon this subject, but I believe in the lazy way of doing it. You have probably read in books the way it is prescribed there that trees should be planted in order to make them live. The holes should be dug, so the books say, seven feet across, eight feet deep, and filled in six feet with all kinds of stuff; then you should go back to the house and see that your hat is on straight and come back in the afternoon, wet the soil all down nicely, leave it for a week or so, and then put in your tree. But to my way of thinking that is all unnecessary. As I have said, I like the lazy way of doing things, and especially in planting trees. In that respect I am about as lazy as Joe Watkins, who was noted for his laziness. He had the reputation of being the laziest man in that whole section. When it comes to double-back-action long-distance laziness it is said he holds the record. They tell a story on him that runs like this: Three other men were going to the Maine woods on a camping expedition, and they got Joe to go along with them. But the boys got thoroughly disgusted finally with Joe's laziness. One morning they said to him, "Joe, you have got to hustle some for yourself; you've let us do all the hunting and fishing and have done nothing yourself. Now you get a move on you; take that gun and go up into the woods, and you get something to eat. You need not come back here until you can bring back with you enough meat for dinner. If you don't, you don't eat; do you understand?" It was pretty hard on Joe, but he took the gun and went up into the woods, and in an hour or so the boys in the camp heard the greatest hullabaloo up in the direction where Joe had gone, and they looked up and saw Joe coming down the hillside at a 2.40 clip, gun in hand, hat off, making for the camp as fast as his feet could carry him, and a great black bear coming after Joe about as fast as Joe was going from him. When they got near enough to the camp the boys took their guns and shot the bear and he fell dead. They turned on Joe: "Why didn't you shoot that bear yourself, Joe? Is there anything the matter with your gun?" Joe straightened up, glared at them, walked away and got comfortable with his pipe, and said nothing; but when the boys pressed him for an explanation, he said: "You dern fools, if I had shot that bear up in the woods I'd ah had ter 'ave lugged him all the way down here, wouldn't I? 'Twas a good deal easier for him to come all that way down here himself."

That's about my situation when it comes to planting trees.

I think, Mr. President, I have talked long enough and said little enough to stop talking now for a while. There are other matters of importance that I wish I had time to discuss, but I do not wish to use any more of your time that can be otherwise spent so pleasurably here.

I assure you that I have enjoyed myself on this occasion, as any one always does when he comes to this country, and I sincerely hope the time is not far distant when I can welcome you to our section of the country.

QUESTION: Professor, you have told us how not to plant trees. Mr. President, I would like to ask the Professor to tell us how he does plant them.

I would also like to ask if the gipsy moth has been controlled in his State and in Boston, or whether he thinks the trees are still ravished thereby as I saw they were there some years ago.

PROFESSOR WAUGH: That is true not only of Boston, but it has spread rapidly to many other parts of the country. It has been found in New Jersey, I understand, and now has been found in Connecticut recently; the moth has spread to New Hampshire, Rhode Island, Connecticut, New York, New Jersey, and is spreading very rapidly all over the country, even to the extent that I consider it a national menace. The scale is a small consideration compared with the gipsy moth. Whether it is going to be controlled I don't know; it is hard to control in the neighborhood of Boston, and it can only be controlled anywhere at very great expense, and it will certainly never be exterminated—any more than the scale has been. In my opinion it is certainly worth the while of this Society to send a delegation of its best members to gipsy moth districts this year and see what is actually being done there, because it is one of the coming problems of this country, and the sooner you folks are informed as to the actual situation the better it will be for you and for the whole country.

In regard to planting apples: I said I favored the lazy way of getting them in the ground. It is simple enough. I would plow down a deep dead furrow, and after distributing the stock I would send a man to indicate on the ground just where the trees are to be planted. We send three men along, or rather two men and a boy—the boy to pass the trees to the two men in the two furrows, the men to set up the trees. They take them as they are handed to them, set them up, throw in on the roots two or three shovelsfull of earth, tramp it down sufficiently, and then pass on to the next tree. In this way the three men can plant at the rate of about two hundred per hour, and do it well.

FRUIT PROSPECTS IN MARYLAND FOR 1906.

PROF. WM. N. HUTT, *College Park.*

Mr. President, Ladies and Gentlemen:

It seems to me to be somewhat of an imposition upon this audience to talk to it any longer this morning, and keep people in here. We have now been holding this meeting a considerable length of time, and it may be an imposition upon some of you to hold it longer.

I have no objection to talking at all, understand, but I do not wish to impose upon the audience to the extent of tiring people out; there may be other things the Secretary wishes to do here, and you can hear me talk at almost any time.

THE PRESIDENT: I think, Professor, that those who have been leaving within the last ten minutes were those who are going on the noon train, and in all probability those who are here now will remain in Ocean City all the afternoon.

PROFESSOR HUTT: As I said before, ladies and gentlemen, I think it is somewhat of an imposition to take any more time to talk to you here, but I have been assigned a subject on the program and I will endeavor to give you a few of my ideas on the subject, and hope I can do so in a very short time.

The subject is "Fruit Prospects in Maryland for 1906."

Now that is probably one of the most difficult subjects that could be assigned to any one, because the obtaining of agricultural statistics is one of the most difficult things to do, because the farmers are quite widespread in the State, and the task is very much different from obtaining city statistics where the population is located in a comparatively small area and is, therefore, much more easily obtainable. Of course, the Agricultural Department or Bureau of Statistics do work of that kind, but they figure the output, and the output can be much more readily taken account of than the prospects of the output that is still on the farm. What is used on the farm and is sold locally we have very little account of.

In Maryland we have forty-six thousand farms. Some of these farms are devoted to general farming, and the raising of a little fruit on the side. Some of this fruit is shipped to market and some of it is not, so that it is difficult to get any accurate information about that.

There are also many farmers who do not know how many trees they have, and who do not know how many baskets of fruit they send to market. They send fruit to the market when they get it ready, and finally, at the end of the season, if you were to ask those farmers how many baskets of fruit they sold they could not tell you.

Of course, under such circumstances, it is almost impossible to obtain accurate statistics from those sources, and, although it is impossible to use that kind of data intelligently, I am expected to know a great deal about that subject, on account of my position as State Horticulturist.

I have been out of the State this summer and have not traveled over it as much as I intend to a little later on; but I have been talking with a great many growers, and from my observations I have formed certain conclusions.

For instance, our staple, the peach, is not a first-class crop this year. I think, as near as I can reckon, it will be about 40 per cent of the ordinary peach crop.

I have tried to get information from the railroads; but as you know if you have anything to do with railroad people you will agree with me that it is pretty hard work to get any information out of them. They are close-mouthed about their business, and they guard their secrets as to traffic very zealously. However, their action in regard to the peach crop this year is rather significant. According to the reports, they figure on two and a half million baskets of peaches from this peninsula this year, and in preparation for this traffic they have built at Philadelphia a thousand cars, many of them already on the road; so that gives some idea to us of what the railroads expect.

As to the apple, there is less prospect in the apple crop than in the peach crop, because, as you know, this year the season has been quite unfavorable. We had very dry weather in the spring and it was too cold. We do not like dry weather in the spring; we would prefer warm, wet spring weather, and, if at all, dry weather later on. This year that condition is just reversed. We had dry, cool weather in the early part of the season and in the latter part wet,warm, rainy weather and far too much rain. If this condition had been reversed, we would have all been benefitted; but we cannot control the weather.

At the College we lost our entire apple crop. I could hardly find a good apple on the trees, because the crop was practically ruined by the heavy frost we had on the 10th of May, which froze everything we had. Of course, things would have been different if the conditions had not been so unfavorable.

In that connection I want to discuss the probabilities of controlling these adverse conditions. Of course, we have no control of the weather, but there are a great many conditions essential to success in the business of fruit raising that are within and under our control.

First is the matter of fertilizers we use on our orchards. We know that a fertile soil is necessary to a successful crop, and that if we do not fertilize we will have very little in our orchards as a result. We find, also, that trees that have been well cultivated and fertilized have greater power of resisting diseases and insects than have trees that are in a more or less neglected condition. Throughout the State I find that we have many orchards that are practically idle and are not kept up to a working standard; I find, too, that a great percentage of them are not of first-class varieties that are marketable. This brings the average down, as well as the fact that so many people do not cultivate and fertilize them as they should.

Now, it seems to me to be a peculiar thing—no, I should not say peculiar, either—let us look at it in this way: Take a human being, for instance. A man who is well fed, having all the comforts of a home, who sleeps well and takes care of himself, is able to do better work and is much more able to resist disease than others. Now, we find that same conditions hold true with trees. If we plant trees and afterward care for them properly, by cultivating them, fertilizing the ground about them, and otherwise caring for them, we will have trees, good ones, that will be more able to resist the onslaught of insects and disease. You will notice that insects invariably attack trees that are injured in some, or some weakling tree. They generally attack that kind first, and the more healthy are your trees the less liable are they to attacks of diseases and insects, and the more likely are they to remain in a healthy condition. We can control the insects to a certain extent.

Now, in regard to the question of fungi: I think this is of more trouble to the fruit grower than is the insect question. The insect is evident; its life on the tree is evident; we have, therefore, a greater chance of getting at him and get rid of him; he has no secret method of attack. The fungus has. As I have said, for this reason, we can better combat them. In Maryland, as well as in other States, we find that we have to make large reductions from our gross estimates on account of fruit decaying and spoiling at the time of shipment, or at the time it is ready to ship.

Pathologists tell us that this is due to fungus diseases. A fungus is a plant that lives on another plant. It is a minute plant that is incapable, in itself, of manufacturing its own food material, consequently must steal its sustenance from the plants that have that capacity. The fungus takes its supply of nourishment from the other plant by stealing it from the sap of its host. There are a great number of fungi, many of which live in cultivated crops, and get their nourishment from them.

Another peculiarity of the fungus growth is its great powers of reproduction. To the uninitiated man a revelation to him of the extent of these powers would seem wonderful, so enormous is the universal reproduction of these growths. Take, for instance, one of the plums you have in your orchard, or, rather, take one of those mummy plums that are found hanging in the trees in winter. It holds very firmly to the twig and does not fall off as any normally ripened plum or peach would, but hangs there as if it were a provision to the safety of the fungi that it should be there. If you were to then take that plum into a laboratory and moisten it, you would find a peculiar growth on it, and you would find a million of those growths on that one plum—enough to infest a county and destroy the fruit of a county if it were to be disseminated throughout it. So we need not again wonder how it is that fruit is destroyed by fungus diseases in such a wholesale way. Fruit decays because of this fungus growth and the rapid reproduction of these minute forms of life.

This year seems to be the most favorable for the spread of fungus diseases. Moisture and the heat combined are the two most important elements for the development of fruit rots. These conditions being so favorable this season, of course fungus diseases have developed to a great extent upon the plum and peach trees. Fungi start as minute spores, which bore themselves into the fruit, without being perceptible to the naked eye, until the fungi have about covered the inside of the fruit and they then come to the outside. When we see the fruit covered with fungus it is in its last stages. They enter other fruits and another generation of the growths come forth. A million of these may come from one single infection.

We find among plants, as among people, a certain tendency or susceptibility to disease, or a tendency, on the other hand, to resist disease. Plants are very much like animals in that way. Pears are not so apt to be rotted, and that is perhaps because they are not so susceptible because of their power of resistance.

It is an important consideration, therefore, to know what varieties of all plants or fruits have the greatest powers of resistance to disease of all kinds. In considering the hardiness of plants and fruits, it is well also to consider their quality from a commercial standpoint. Even the pear has this year been blighted much worse than it has ever before to my knowledge, but that is because of the extremely favorable conditions for the development of the fungus growths.

Now, as to the method of controlling these diseases; for they can be controlled to a certain extent. A fungicide or fungikiller is a substance which will kill the fungus and not the plant or fruit on which it lives. Many bulletins treat of the value of copper salts for this purpose, so I'll not go into details here. Some plant diseases are something like consumption and smallpox in human beings, and on some plants there is no cure that has ever been found for them. There are a few plant diseases that do not respond to the treatment, but it is possible to kill many of these growths and to keep them down to the point where they are not of great danger to crops.

Often the growers are discouraged in using spray mixtures, but they are only discouraged in the results of the first year they attempt it. One man said not long ago: "Why, I sprayed half a dozen times and notwithstanding that I had rot in my apples." He was prevailed upon to try it the second year, and he found that the same treatment the second year got them completely under control.

Orchard trees should be sprayed continuously. You may not secure just the result you want on some of your trees the first year, but the second year you will see it work on them all. Often the first year some of the trees do not respond, because they are more susceptible to fungus than the other varieties.

Another point which I consider very important in this discussion is the question of protecting fruits from injurious temperatures and frosts. That is, of course, one of the hardest things we have to work against, and you may say it is entirely beyond our control; but it is not. If we were to study the conditions under which frosts affect crops we would find that it is not entirely an outside object over which we have no control.

We cannot control the weather, but there are certain conditions of the atmosphere contingent upon elevations and depressions which make a great deal of difference; and one can see this difference by studying these conditions.

Take a simple case, for instance: In the first fall frost you will notice that the first things affected by it are the melons, pumpkins, squash, and other such vines, and they are the first that go down with frosts. You will find next the tomato, just a little less injured, and then the corn will probably be injured less, and some plants not injured at all, showing that some of them have greater hardiness. You will find that, also, notwithstanding the fact that frost has struck right along the whole field containing these vines, here is one vine that is not injured at all, while the others are blackened and flattened to the ground. Now there must be some condition to account for this peculiar fact.

The most significant fact that we have to consider is the condition of the temperature as affected by elevation and depression. As the air cools it naturally gravitates to lower levels, because cold air is heavier than warm air. As the air cools towards evening and later on into the night it gradually settles to the lower levels, so that we have all over the country air drainage just as we have water drainage. Cool air will seek the lower levels, just as water does.

Take a cornfield that is located on high and low land also; when the frost strikes it you will find that the corn on the hillsides is all right, or comparatively so, while that in the lower land, affected by the lowest temperature, is badly frosted.

From these deductions I would advise that in the selection of a site for an orchard it be located as far as possible on the higher land.

To further back up that theory, I have made experiments with an orchard planted on a sloping hillside. It runs about twenty rows. I had one of my students make accurate measurements of that orchard and survey it, and afterwards we made a series of contour lines, showing the elevation of every tree in that orchard. The contour lines were two feet apart. For instance, those in the first contour line were at an elevation of two feet; those in the line above that four feet, those in the next line above that six feet, those in the next eight feet, and so on up to those in the top row, which were located at an elevation of twenty feet. The temperature at each of these levels was taken three times a day, and it was shown that the trees planted at the lowest elevation were in air a few degrees colder than the trees at the high elevations. There was hardly an exception to this rule.

We tried it another way, and took the temperature throughout a contour line at the same elevation, and found it to be the same all along throughout. For instance, if the elevation selected was four feet at one end, we took the temperature throughout the line or row at the elevation of four feet, and we found it to be the same throughout the length of that row at the same elevation.

Further corroboration of that principle was shown by the first frosts of the next winter. During the winter we found the frosts had affected the trees on the lower elevations more than those on the higher elevations, and that many on the lower elevations were made "black-hearted"—that is, the frost freezes the trees in the wintertime and enters sufficiently into the heart of the wood to blacken it. The trees on the lower levels were black-hearted, whereas those on the higher elevations were not. In the black-hearted trees there was nothing left living but the shell of the wood, surrounding the heart portion. Going up by the contour of the land, we found less and less black-hearted trees, until we got to the highest tree in the orchard, and that was not injured at all, and so with all the trees on the twenty-foot level. The lower portion of the orchard was surrounded by woods on the west and south, and the air simply drained into the depression from the higher elevations on the hillside. In the lower level, or frost pocket, the trees were all injured.

If I could get it, I would not have an orchard that did not slope below the trees so that the cold air could drain off and pass down below them.

Further than that, we made special investigations with peaches. It is a peculiar thing that in a tree all parts of the tree are not susceptible to the same degree of freezing. There are parts of it that are more injured than other parts of it. The fruit buds are the tenderest part of a fruit tree. After frost, for instance, some parts of the tree would be all right, whereas the fruit buds were entirely killed.

In our work on this subject we went over a great many of the trees in the orchard, and counted the dead buds, and found on the trees below the two-foot elevation about 50 per cent of the buds killed, and, going to the upper part of the tree, at the elevation from two to six feet up, we found from 15 to 20 per cent of the buds killed, showing that in every case there was a decided difference noticeable in the extent of the freezing as influenced by the various elevations.

However, there is a condition that seems to indicate the contrary: I have found peaches on the lowest parts of the land—but along streams—that were not so affected by frosts, whereas others were. That seems to be a contrary condition; but when I came to consider a solution for it I came to the conclusion that cold air drains naturally down a river; that water is a kind of a passage for air to lower levels. You will often find, therefore, that the portion of the orchard that is located along the water is not so much affected by the frost, whereas those portions further removed from the water are affected.

That is a condition which may be local, but the locality does not affect the advantages of elevation.

Without saying anything against the Eastern Shore, I think the Western Shore is superior to the Eastern Shore on account of its elevation. Last year we had excellent peaches from the Western Shore, whereas those on the Eastern Shore, on account of the lower level, were killed.

There are some other matters which I could discuss now, but I fear I have talked to you too long already. So I will not talk any more now on those points, unless, however, you want to ask any questions. In that case I shall be pleased to discuss them.

I thank you for your attention.

Mr. Morrison: I would like to hear something about the mildew.

Professor Hutt: I would rather Professor Norton would discuss that if he pleases to.

The President: Professor Norton seems to be absent.

Professor Hutt: Mildews come in the class of fungi, but they are somewhat different in their construction or structure than the other fungi. I can hardly tell you of what they consist, but they are more susceptible to treatment than some of the others.

The hardest fungi to treat are the rusts; the easiest to treat are the ordinary rots. Coming in between these two are what are called molds and mildews and a few other fungi. The term mildew is a general one, and does not indicate very clearly the family to which they belong. It is simply a question of hardiness, in considering the various kinds of fungi. Some of them are hardy; some are easy to kill; some are hard to kill.

I do not know of any special treatment for mildew outside of the ordinary treatment for fungi generally; but, in addition to that, sulphur has been used to a great extent in controlling mildew. After it gets started, a fungus cannot be cured; it can only be prevented. In order to explain that satisfactorily to you I will give you something of a history of the life of a fungus plant.

It starts with a growth so small that thousands can be gotten on the tip of a pin point—not a pin head, but its point. It requires a miscroscope to see them, and finally they form the growth you call mildew which you see on plants; but they do not accumulate on the outside of plants. While still too small to be seen, this growth begins to bore into the plant, or fruit, and sends a little shaft in through the tissue of the fruit; then it sends branches off in every direction, and these reproduce by millions, take the sap from the plant in that way and kill or consume the tissues of the plant itself.

Now, before you see the actual evidence of mildew, this growth has been at work for a long time, and the mildew you see is the final product of the fungus. It has been there inside of the plant and has completed its work, unseen. It did not come through the surface until its life history was complete, and its work complete; so that spraying is not a cure. It is only a preventative, and that is where the farmer takes the risk. Sometimes it pays to take a risk and does not pay to spray. Sometimes it pays to take the risk of having the fungi, for sometimes it doesn't come. After it has come and has started its work, spraying does no good; it is too late then, but by continuing spraying right through the season you can thoroughly control it, but you will have to use the spray as a preventative.

At our Experiment Station we spray every year. Sometimes we do not need it; other times it affords great protection. That is about all we can do.

THE PRESIDENT: Are there any other questions any member wishes to ask?

MR. R. SYMONS: Then the only thing we can do, Professor, is to prevent it; there is no cure?

PROFESSOR HUTT: No cure; you can only use the spray to prevent its taking a hold.

MR. NAUGHTON: I would like to ask what is the matter with Grimes Golden. It is all rotten at the roots and at the ground, and gets that way very often.

PROFESSOR HUTT: Mr. President, I do not know that I can give any special information on that subject. I have noticed it on that apple; but it is more of a pathological question than a horticultural one. The pathologists have given special time to plant disease—a great deal more time than have horticulturists; and we will have to refer that question to them. I have noticed that same disease in other trees, but it does not seem to be very widespread. Do you find it so in your section?

MR. NAUGHTON: It seems to be.

PROFESSOR HUTT: I have not noticed or heard that it was very extended. I have noticed it in a few trees. It is what is called the color rot. That disease has been investigated at considerable length, but those who investigated it have not discovered just what gives rise to the trouble, and no cure has been found for it. It is a class of horticultural epidemics for which we have very little hope of finding a cure that will affect it successfully.

THE PRESIDENT: I have noticed that the Grimes Golden tree, when it becomes from fifteen to eighteen years of age, does seem to die around the roots. I cannot—nor have horticulturists and professors even been able to give us any reason for it, or any cure for it; and now, as a result of our experiences, in planting we use the Baldwin tree. It has a very hardy root, and in planting our new orchards, where we want to use the Grimes Golden, we are planting the Baldwin tree and top-work the Grimes Golden on it.

MR. NAUGHTON: How much time do you lose by that process?

THE PRESIDENT: We do not lose any time.

MR. NAUGHTON: When do you top-work?

THE PRESIDENT: The next season after you plant your tree.

MR. BEATTIE: I would like to add a word about this question. In most parts of the country there seems to be the practice to top-work the Grimes Golden on almost any hardy variety, in the second year.

THE PRESIDENT: What tree would you suggest to plant in Maryland, for instance, for top-working?

MR. BEATTIE: I think the Baldwin or the York Imperial; either one of them would be good.

A VOICE: Some twenty years ago I managed to see in a lot of apple trees that I had one which developed finely; it was a Grimes Golden apple, and for several years it was a fine apple. Up to the time it was diseased it developed more rapidly than any other tree in the orchard, and was a very healthy tree.

THE PRESIDENT: About what age was it when it first became diseased?

Answer: About fifteen years.

THE PRESIDENT: Where do you live?

Answer: In Virginia. I have wondered why such a healthy tree should be attacked first by the disease, and it did not attack any of the other trees in that orchard.

At the conclusion of this address Dr. E. P. Magruder offered the following resolutions:

RESOLUTIONS.

Resolved, That in the recent death of Captain Robert Emery the State has lost one of its foremost horticulturists, and this Society one of its most loyal, able, and enthusiastic members, the memory of whose inspiring example and endearing personality we shall always cherish.

Resolved, That a copy of this resolution be sent to the family of the deceased.

Resolved, That in recognition of the great service rendered the Society by the committee appointed for the purpose of increasing our annual appropriation, we express to them our high sense of obligation and esteem.

Resolved, That as recipients of an extraordinary cordiality and hospitality tendered us through Messrs. J. G. Harrison & Sons, we extend to them our sincere gratification and appreciation.

Reports from Representatives of other Societies

REMARKS.

CHARLES BARKER, ***Milford, Del.***

It seems needless for me to add anything to what has already been said, except that I am glad of this opportunity of extending thanks to Messrs. Harrison & Sons for this most enjoyable meeting, both at their homes and here at the seashore. It is given in true Maryland style and with such a welcome and hospitality that only a Marylander, it seems to me, can render. I have been a member of the Peninsula Horticultural Society since its organization and as our membership is made up, not only from Delaware, but the Eastern Shore of Maryland, and many of your most valued members are also connected with our Society, it seems really difficult to ascertain just where the dividing line comes.

I am glad to say, however, that our Society is growing to quite large proportions under the faithful and earnest efforts of our able Secretary, Mr. Wesley Webb, of Dover, Delaware, who, I believe, is responsible for getting me on my feet. I agree with some of the speakers that the fruit growers of this country are up against unpleasant conditions, but I believe that success will surely crown the efforts of those who persevere to the end, and to the young especially, and that this is a most opportune time to plant tree fruits of such varieties as are adapted to their section.

Mr. President, I thank you for the privilege of saying a word, and would now like to hear from the Secretary of our Home Society, Mr. Wesley Webb.

PENINSULA HORTICULTURAL SOCIETY.

WESLEY WEBB, *Dover, Del.*

Mr. President, Ladies and Gentlemen:

Secretaries are never expected to say anything. If they make a record of what other people say they do their part; and it has been my pleasure, as well as an honor, to record as well as I could what the members of the Peninsula Horticultural Society have said and done at their meetings since its organization in Dover twenty years ago this fall.

You will see at once that our Society is much older and, therefore, of course, more honorable than is the Maryland State Society! We do not claim to be much larger, but only older and better looking! You may not concede the truth of the latter claim, but that is what we claim, and this is because our meetings are very well attended by the ladies.

I am sure our Society has been of great benefit and help to the fruit growers of the Peninsula. The printed proceedings of its meetings have been of incalculable benefit to them, for these printed proceedings contain the experiences of our best horticulturists. If the fruit growers had experiences that were not profitable, if they made failures and mistakes, they were always ready to tell of their failures and mistakes; they did so in order that others might take warning. If they were successful, they were ready to tell of their success; so that by meeting together as they have they have learned one of another, and so have built up the Horticultural Society—and the perfection of horticulture of the Peninsula.

A member of the Society who lives in the southern part of the Peninsula told me yesterday that he considered the reports of the annual meetings of the Society worth more to him than any agricultural publication in the United States; that he got more out of them that was of practical use to him. I speak of this as an illustration of what the Society is really accomplishing. The reports contain not only the experiences of the members of the Society, but of the wisest horticulturists from other parts of our country, for we seek the best wherever we may find it.

It is a delight to be present at this meeting and to meet you all, and we shall expect to see every one of you at our annual session in Dover next January.

NEW JERSEY HORTICULTURAL SOCIETY.

Dr. Ward.

New Jersey sends her greeting down south to the members of the Maryland State Horticultural Society assembled here on the Eastern Shore of Maryland.

There is a warm feeling between the New Jersey State Horticultural Society and the Peninsula Society. For a number of years we have sent delegates to represent our Society at the gatherings of the Peninsula Society, and in return we have received from your Society delegates at our meetings, with whom we have been entirely pleased, and have been glad to see. I think last winter at the meeting of our State Horticultural Society, one of the finest collections of apples I have ever seen were sent there by the Peninsula Society. They were admired very much, generally. They were clear, finely colored, and beautiful, and were as fine specimens of fruit as one would hope to see.

In New Jersey we are confronted with about the same conditions that you have facing you here. The same problems confront us.

The San José scale has devastated our State. Hundreds and hundreds of acres of peach orchards have been wiped out, and that is one of the largest industries in the State of New Jersey. It has only been within probably the last two or three years that the Horticulturists have had their attention called to the conditions as they really exist there; and unless the farmers will follow out the treatment that we are receiving—the information we are receiving, too—

from our Experimental Station, the fruit industry of our State is going to be lost. But I am happy to say now that there has been a marked appreciation of the conditions that exist there. Within the last two years many, many acres have been replanted, but unless a person expects to labor, and keep at work on his trees, it is useless to put them in the ground.

Now, for many years—probably fifty years—I have been engaged in fruit-growing, largely. In my early days, when a young man, I wished to go into that business. I remember listening to one of the most eminent horticulturists, and one of the proudest gentlemen that America has ever produced—Mr. Nicholas Longworth—talk on that subject. He used to visit our home, and would come on there from his Cincinnati home. He became very much interested in the strawberry, and it was he who originated the Longworth strawberry.

I remember listening to other prominent horticulturists and men of the days gone by, and even as a boy, and especially when a young man, I was influenced by their discourses on the subject. I would think of what these great men said, and while listening to them, I think it was there that I learned my love for trees and for Nature; but, unfortunately, for the time being, while yet a young man, a member of a proud family—it was said that I should have a collegiate education—that I should study a profession. I did so; but I soon tired of it, and was very, very glad to get back on to the old farm, where I have lived ever since.

As I have said, to make a success of the fruit-growing business, it requires work—hard work; and now that the labor question has come to the point it has reached, I do not know what we are going to do. This year it has bothered me more than almost anything else. It has been impossible—simply impossible to get labor. We get it after a fashion, but it is of the shiftless, worthless kind. I am a very heavy strawberry grower, and this year, when we came to the time of picking strawberries—we always had had boys come out from the city—boys and girls from the city, who were very glad to come out and do the work. This year they would not come; or they did not come. Then we got some of the school children, and then we were up against the school laws. The first thing we knew the school detective officer came out there, and it was necessary for us to give up the labor of the school children we had employed there. So we were up against that.

There are difficulties that are hard to meet, and I am at a loss to know what we are going to do. What we are going to do about the labor question I do not know.

Now that is the condition throughout our State. It is very discouraging. Situated as we are, in almost the midst of the open market, with New York within one hundred miles of my home, then the Philadelphia market, then our own city of three hundred and fifty thousand people—with the fruit there ready to be picked and marketed, it was rather discouraging, and, as I say, I was at a loss to know just what to do.

We have to put our produce, too, through the commission houses, and cannot retail it. This, within the last few years, has been becoming discouraging. A few years ago—when we first asked the commission merchants to take our consignments, they were very glad —indeed glad to get our consignments; but now they have their buyers out in all directions buying their own stuff, and of course they first look out for their own pockets. That is their first consideration, of course. That is human nature; and our stuff goes in with the rest of the shipment by the buyers to the commission merchant; and our stuff goes in also at the same price that the others do.

So that I say, gentlemen, all fruit men up in this general locality are confronted by about the same conditions; we are all in about the same box. I do not know that it makes very much difference where you are or where you are located.

Again, I say, Mr. President, New Jersey extends her hand and greeting to the members of this Society. We are with you.

I thank you.

REMARKS.

James S. Harris, *Coleman*.

Mr. President, Ladies and Gentlemen:

I was not expecting to be called upon to say anything here on this occasion, and have not prepared anything to say, at all.

Yesterday at Berlin, in a very eloquent way, we were told of the virtues of the Peninsula and Maryland and Delaware, and we heard a great deal of eloquence about the superiority of our soil and the elegance of our climate; but I can add, from an official standpoint, some interesting statements to what you have heard, for I am one of those people who assist in taking the local records of the weather on this Peninsula of Maryland and Delaware; but I can say to the people here, for the benefit of the people outside—for it is a fact that we are all familiar with, but it will add to the value of our Peninsula in our own estimation to hear of it again in this way, and I hope it will reach the outside localities: It is a fact that the climate of this Peninsula of Maryland and Delaware is more equable, more uniform in temperature than any other part of Eastern United States; and in saying that I speak from the records.

During the summer months, from April to September, the average temperature of this Peninsula does not rise as high as it does in other sections of the country, in the same latitude; and there is not the variation in the temperature in the period from September until March that there is in other parts of this country; the temperature does not fall as low—the average mean temperature, and it is not, on the average, as cold in winter or as high in summer as it is in other sections of the country. And it is these facts that make this Peninsula one of the most equable and uniform, so far as the temperature is concerned, and, therefore, one of the most healthful parts of the whole country to live in.

That is certainly something we should all not only know ourselves, but that we should bear in mind for the information of others. It is a fact, for I am speaking from the record.

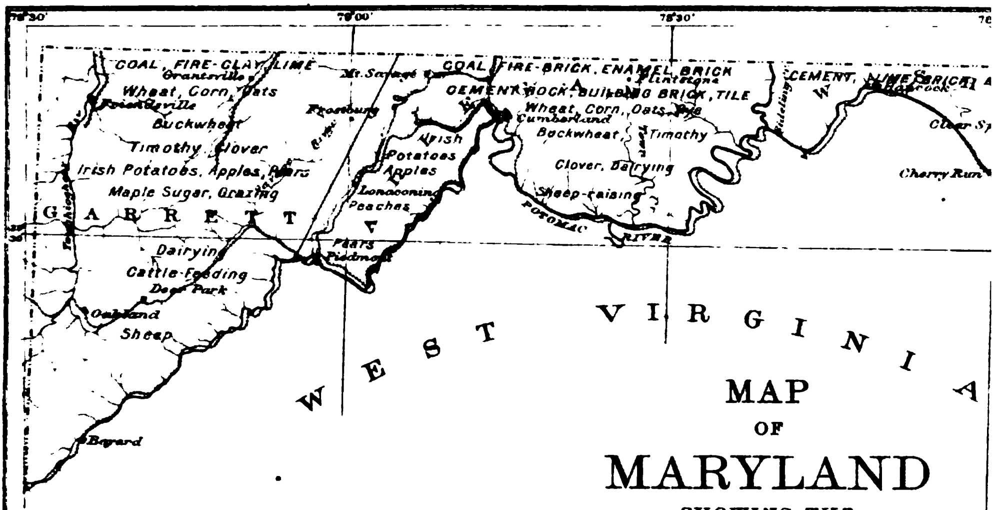
I take great pleasure in looking at the beautiful side—and there is no other side—of all that is connected with our Eastern Shore of Maryland. In my life I have traveled far, and have seen much of this world of ours. I have traveled from the St. Lawrence valley along the Lakes, down through those sections up there, through New York, Pennsylvania, New Jersey, Virginia, North and South Carolina, and down through grand old Georgia; I have been through the Middle West, and have traveled some in Central America, Panama, Mexico, and have spent some little time in California, but after it all, I have been glad to come home to this beautiful Peninsula of ours, and thanked my Master that He ever made such a spot as the Eastern Shore of Maryland and Delaware.

THE SECRETARY: I would like to announce that we have several copies of the Catalogue of the Maryland Agricultural College. If any of you would like to look them over, come up to the desk and take one.

I also have to announce that a conference of the Farmers' Institute will be held on August 21st to the 24th, and I have here a schedule of the different classes. I would be glad to have any of you take them and look them over, and, it is needless to say, we would be pleased to have you attend the conference at the College during that week.

There is a small exhibit of fruit which we would be glad to have you inspect.

THE PRESIDENT: We are certainly thankful for your attendance. The meeting will now stand adjourned.



MAP
OF
MARYLAND
SHOWING THE
NATURAL RESOURCES
OF
THE COUNTIES

MARYLAND GEOLOGICAL SURVEY
WM. BULLOCK CLARK, STATE GEOLOGIST

1907

NOTE.—The leading resources of each county are printed in red, no attempt being made to show the distribution of each product within the confines of the county. The lists of agricultural products are prepared by the U. S. Department of Agriculture, Bureau of Soils, and by the Maryland Agricultural College.

MARYLAND.

Extreme width of State from East to West	240 miles.
Extreme length of State from North to South	125 miles.
Total Area of the State	12,210 square miles.
Land surface of the State	9,860 square miles.
Water surface of the State	2,350 square miles.
Average number of persons to the square mile	120.5
Incorporated villages, towns and cities in Maryland	99

STATE EDUCATIONAL FACILITIES.

Number of Schools in counties of Maryland	2,357
Number of Public Schools in Baltimore City	176
Number of Normal Schools	2
School for the Deaf and Dumb	1
School for the Colored Blind	1
Maryland School for the Blind (White)	1
High Schools in Counties	51
Manual Training Schools in Counties	17
Total Expenditures for Public School purposes in Baltimore City, 1905	$1,366,660.85
Total Expenditures for Public School purposes in Counties in Maryland, 1905	$1,781,266.51

STAPLE AGRICULTURAL CROPS.

	ACRES.
Corn	658,000
Wheat	634,000
Hay and Forage Crops	375,000
Barley, Buckwheat, Oats and Rye	76,000
Tobacco	43,000

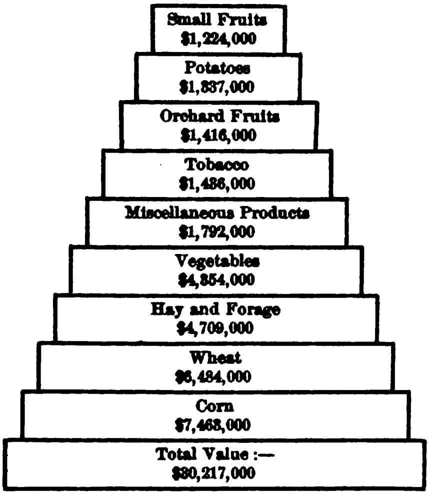
HORTICULTURAL CROPS.

Orchard Fruits	300,000
Vegetables	100,000
Potatoes	33,000
Small Fruits	18,000

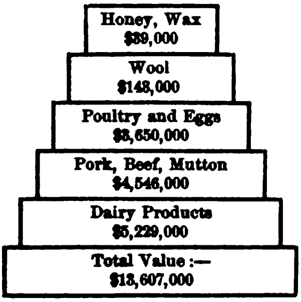
RAILROADS AND STEAMBOAT LINES.

There are 35 Railroad Transportation Routes and 30 Steamboat and Steamship Lines operating within the borders of Maryland.

The annual income from the farm products of Maryland is represented by the following diagram:



Farm Products



Animal Products

Published by The State Horticultural Department, Maryland Agricultural College, College Park, Md.

Miscellaneous.

THE AGRICULTURE OF MARYLAND.

Director H. J. Patterson, *College Park.*

The agriculture of Maryland is conducted upon many different kinds of soils and under a wide range of climatic conditions owing to the considerable variations which are found to exist between the tidewater lands at sea level in the East and the mountain lands over two hundred miles to the West with an elevation of as much as 3,000 feet above sea level. Not only has the climate and soils made a wide range of agriculture possible, but the different sections of the State have been settled by people with different inclinations and tendencies, which has resulted in the kind and degree of agricultural development being quite varied.

The total area of Maryland is 12,210 sq. miles, 9,860 sq. miles of which is land surface, which, up to this time, is divided into about 46,000 farms averaging about 135 acres each. The principal farm crops have the following areas devoted to them annually:

Staple Agricultural Crops—Corn, 658,000 acres; wheat, 634,000 acres; hays and forage crops, 375,000 acres; barley, buckwheat, oats and rye, 76,000 acres; tobacco, 43,000 acres.

Horticultural Crops—Orchard fruits, 300,000 acres; vegetables, 100,000 acres; potatoes, 33,000 acres; small fruits, 18,000 acres.

The annual income from the farm products of Maryland is represented by the following diagram:

FARM PRODUCTS

Small fruits, $1,224,000.	Vegetables, $4,354,000.
Potatoes, $1,337,000.	Hay and forage, $4,709,000.
Orchard fruits, $1,416,000.	Wheat, $6,484,000.
Tobacco, $1,436,000.	Corn, $7,463,000.

Miscellaneous products, $1,792,000.

Total Value, $30,217,000

ANIMAL PRODUCTS

Honey, wax, $39,000.	Pork, beef, mutton, $4,546,000.
Wool, $143,000.	Dairy products, $5,229,000.

Poultry and eggs, $3,650,000.

Total Value, $13,607,000

For the purpose of agricultural classifications, Maryland is naturally divided into four parts, viz.: Eastern, Southern, Northern-Central, and Western Maryland.

Eastern Maryland, popularly known as the "Eastern Shore," is composed of the nine counties lying in the peninsula between the Atlantic Ocean and Chesapeake Bay and are as follows:

Cecil, Kent, Queen Anne's, Talbot, Caroline, Dorchester, Wicomico, Somerset, and Worcester.

The "Eastern Shore" is uniformly level, with fairly good roads, which are easily and economically kept in repair. The land is considerably indented with tidal estuaries commonly called "Creeks."

Along many of these creeks are marsh lands which have luxuriant growths of natural grasses which are well adapted to grazing.

The proximity of the Ocean and Bay greatly modifies the temperature, so that this section enjoys a long growing season and very short, mild winters. In general the soil and climate are exceptionally well adapted to the early production of vegetables and small fruits.

Transportation facilities to the principal Eastern markets are very good by both water and rail. The creeks and larger streams are so numerous in some parts of the "Eastern Shore" that almost every farm enjoys a water approach.

The greatest agricultural drawback to this section is due to the fact living is so cheap; oysters, fish, and game are so abundant, that labor is unreliable and hard to keep at regular and systematic employment.

In general, the land in the northern half of the "Eastern Shore" is better adapted to the staple agricultural crops, with wheat and corn predominating; while the southern half is well adapted to early vegetables, small fruits, and crops for canning.

The Eastern Shore became widely known the early part of the last century for peach-growing and still maintains a prominent place in this industry. This section of the State is also largely engaged in growing other orchard fruits.

Large deposits of green sand and shell marls are found in many parts of the Eastern Shore, and these are quite valuable in agriculture as a source of lime. These marls also often contain potash and phosphoric acid, which will graduallly become available to crops.

Southern Maryland is made up of five counties, lying between the Chesapeake Bay and the Potomac River, viz.: Prince George's, Anne Arundel, Charles, Calvert, and St. Mary's.

The surface of the land in Southern Maryland is somewhat higher and more broken or rolling than the Eastern Shore. This is the principal tobacco-growing section of the State, and the soils and climate are well adapted to this crop. There is also much land well adapted to the staple agricultural crops and to vegetables and small fruits. Most of Southern Maryland has good transportation facilities by both water and rail, and being very near to both Baltimore and Washington, has good markets. Dairy farming has been found very profitable in the section near Washington, and what is known as the "Eastern Branch" trucking section produces the earliest local vegetables and small fruits which are found in the Washington market.

Less than one-half of the land in this section is under cultivation. Most of the uncultivated areas is in woodland, yet considerable cleaned land is untilled. There is much land held in large estates which is uncultivated because the owners are unable to work it to advantage. The agriculture of this section has suffered considerably because of the labor conditions which have prevailed since the abolishment of slavery. The kind of farming pursued in Southern Maryland has been such as to give the lands a badly worn appearance and put a bad face on them generally, but most of the soils respond quickly to good treatment and can be very economically brought to a satisfactory condition of fertility through the use of leguminous crops, shell marls and lime.

Most all of Southern Maryland is underlaid with shell and green sand marls. These deposits crop out and are easily accessible in many places. These shell marls are valuable sources of lime, and though they do not act as quickly as caustic lime, yet should be more largely used than at present because of their cheapness. Wherever live stock is combined with other classes of farming in this section it exerts a marked influence on the character and profits of the place and there is no doubt but that all farmers should aim to keep more stock.

Perhaps no part of this State offers greater opportunities for development and investment than Southern Maryland, owing to the cheapness of the land and nearness to good markets and the ease with which it responds to good, systematic treatment. The value of farm lands in this section varies generally between three and thirty dollars per acre, and this low price is not so much due to the poor agricultural condition as to the great amount of uncultivated land and the scarcity of labor.

North Central Maryland is composed of five counties, viz.: Baltimore, Harford, Howard, Carroll, and Montgomery. The land in this section of the State is very rolling. It is generally rather a stiff clay and clay loam underlaid with rock and is well drained. The land is mostly cleaned and under cultivation. The valleys are usually very fertile. The farms in this section are generally small, varying from 50 to 150 acres, and in the most part tilled by their owners. People of German descent predominate in this farming section and the habits of thrift for which this class of settlers was noted is still much in evidence.

In this section mixed husbandry largely predominates with dairying, trucking and canning being made very prominent. Baltimore is about in the center of this area and Washington at one side, and with two such great cities there is a never-ceasing demand for all classes of farm products.

Western Maryland is composed of Garrett, Allegany, Washington, and Frederick counties. This section of the State is wedged in between Pennsylvania and the Virginias, and is the mountainous portion of the State. Bituminous coal mines abound in Garrett and Allegany counties and give a stimulus to industry and manufacturing operations. Prosperous farming is also carried on extensively.

Western Maryland is a succession of parallel ranges of mountains with deep and generally fertile valleys which drain chiefly into the Potomac River. The mountains reach 3,000 feet in altitude, and in the west forms a high plateau on which are situated many productive farms. Garrett and Allegany counties are naturally well adapted to grazing, and stock-raising should be more largely pursued than at present. Apples do well in these counties. Oats, buckwheat and potatoes are the principal crops. Garrett county produces about 250,000 pounds of maple sugar annually and about every farm has a chestnut grove which adds considerable to the county's income.

Washington and Frederick counties abound in productive farms. Very little land in these counties is uncultivated, and they are the best farms of any in the State. The farms are generally tilled by the owners. The land is mostly of limestone origin. Wheat, corn, and hay crops are large. Considerable attention is paid to raising stock of all kinds. Horses from these counties are always in demand in Baltimore and Washington markets, and command the highest prices because of their endurance and general good qualities. Fruit-growing has developed to large proportions in Washington county within the last few years, and many mountain lands which a few years ago were considered almost worthless are now growing peaches, apples, plums and cherries to perfection and proving profitable investments.

SPECIAL AGRICULTURAL FEATURES OF MARYLAND.

The geographical position of Maryland with reference to the center of population, together with the climatic and soil conditions, make the following special kinds of farming peculiarly adapted to the State: Canning, dairying, orchard fruits, small fruits, truck crops, sheep and hogs.

CANNING.

Maryland was one of the pioneer States in the canning business and still occupies a very important place in that industry. At the present time Maryland stands first in the amount of tomatoes canned; first in peas, and fourth in corn. Maryland packs nearly one-third of all the tomatoes canned in the United States and about one-fourth of the total amount of peas.

The canning industry in Maryland for a number of years was largely centered in Harford county (where now there are about 500 packing houses); but it has gradually spread over the greater part of Northern Maryland. While the canning of tomatoes, corn, and peas represent the largest part of this industry, yet all classes of vegetables and fruits are packed to some extent and also oysters and crabs quite extensively.

DAIRYING.

Baltimore, Washington and Philadelphia, together with numerous small towns, gives a good market for all kinds of dairy products, but especially so for milk and cream. These markets have caused a large dairy interest to grow up in the north-central portion of the State and developed in this section some exceptionally fine dairy farms and herds. In this section of Maryland can be found some the most complete, sanitary, and in every way modern and up-to-date dairy equipments which exist in the United States. Much of the land in Central Maryland grows splendid pasture grasses naturally, and also gives good yields of hay, corn, wheat, barley, clover, alfalfa and cowpeas, so that the dairy farmer can raise an abundance of the very best feeds, and if well managed can produce a well-balanced ration on the farm. There are a number of creameries in the State, particularly in Frederick and Washington counties and the northern half of the "Eastern Shore." Butter-making proves very profitable, especially where the skimmed milk is properly utilized in feeding hogs and calves. There are no cheese factories in the State.

ORCHARD FRUITS.

Maryland was probably the pioneer State in the growing of orchard fruits on a commercial scale. The first large orchards were of peaches, and were planted in the year 1800. The industry started in Anne Arundel county, south of Baltimore city, but soon reached the "Eastern Shore," where it spread very rapidly until almost the whole "Shore" was one large peach orchard. The extent of peach growing, with the beauty and quality of the fruit, made the State famous for this product. The "peach yellows," after some years, worked destruction to many orchards and made the growing on the "Eastern Shore" unprofitable for a few years, but the industry in that section is again increasing rapidly. In 1875 the discovery was made that a belt of land along the foot of South Mountain in Western Maryland was peculiarly adapted to peaches, and the first commercial orchard was planted in that section. From the very small plantings made about 30 years ago at Edgemont, peach-growing has developed in all directions until now the Maryland Mountain peaches have taken a very prominent place in the markets. Pears, plums, and cherries are grown quite extensively in many parts of the State. Apples grow well in all parts, but are only being grown on a large commercial scale in Western Maryland. Chestnuts, shellbarks, English walnuts, filberts and pecans grow in many parts of the State and are beginning to receive some attention commercially.

SMALL FRUITS.

The growing of small fruits receives special attention in all parts of the State, but is conducted on an extensive scale only in the vicinity of large cities and on the "Eastern Shore." While this industry had its inception in supplying the local markets, it has now grown so that the shipments to the distant markets are more remunerative than the home trade. During the season Maryland berries are found in almost every city and town as far north as Montreal, Canada, and in plentiful seasons, as far west as Cleveland and Chicago. Of the small fruits, the strawberry is the most important but raspberries and blackberries occupy a prominent place. Maryland produces more strawberries than any other State in the Union. Maryland has large areas of land well adapted to small fruits which, together with the favorable climate, is sure to keep this one of the important specialties of the farm, and the prominence of this crop will increase as the growers fully realize the response which they give to good management and intensive culture.

TRUCK CROPS.

Maryland has large areas well adapted to vegetables of all kinds and fortunately these lands are situated near the large cities and also near the water courses, which seem to give a climatic condition favorable to their growth. Vegetables are grown principally for consumption in the fresh state, but also to a considerable extent for canning.

Truck farming will always be one of the great specialties, not only because of the good markets, but also because this class of farming gives quick returns for the labor and money invested. Again, truck farming will permit of growing two or three crops a season on the same land, which alone permits of relatively larger returns than most of the staple crops. Most all truck crops respond wonderfully to intensive manuring and culture.

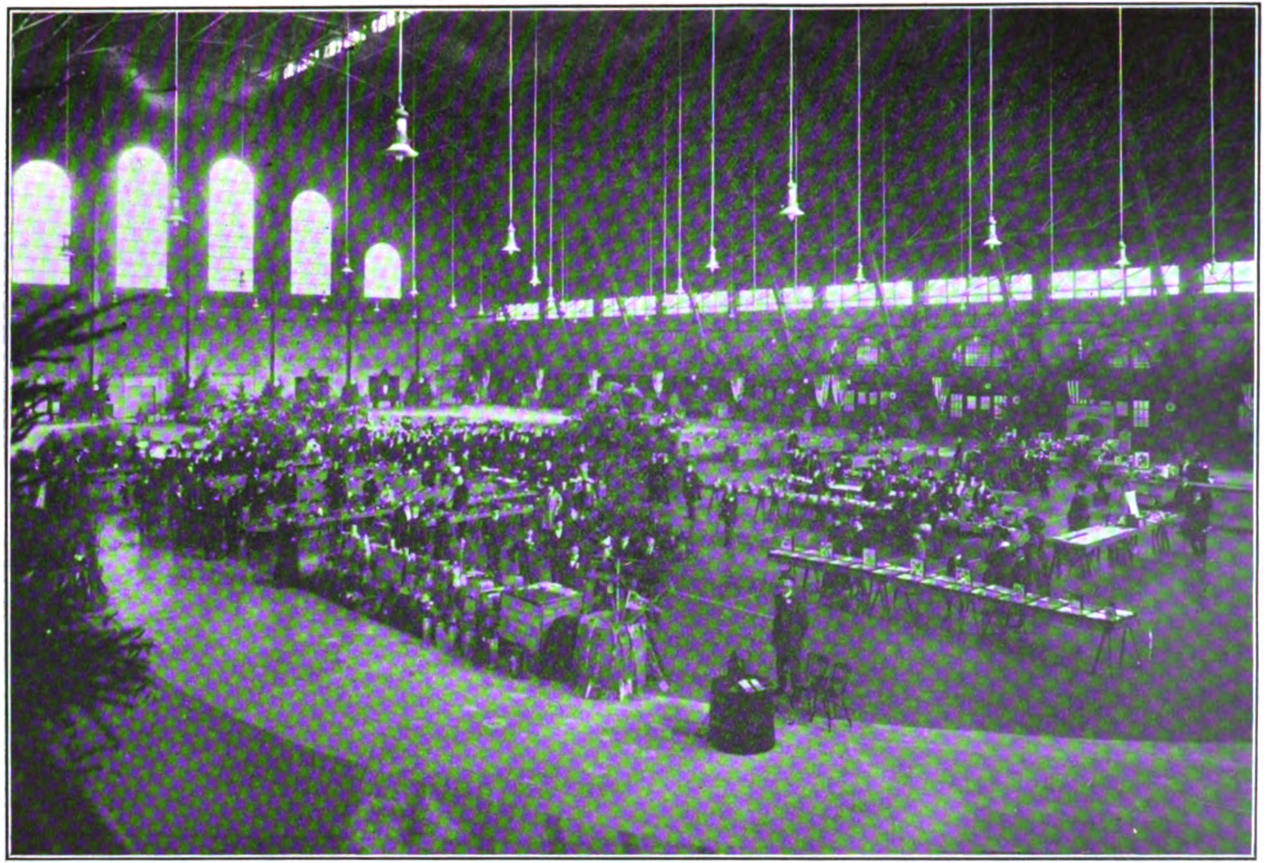
POULTRY, SHEEP AND HOGS.

Poultry, sheep and hogs are probably the most profitable of live stock for Maryland farmers.

Poultry does well in Eastern, Southern, and Central parts of the State, and if properly managed, there is no difficulty in having good yields of eggs in winter. In Eastern and Southern Maryland it is easy to have green pastures for poultry all the year. Good poultry always commands a good price, as meat and the market never seems to get enough eggs, and the price is relatively high.

The growing of sheep is a specialty in but four sections, but wherever pursued is found quite profitable. The most favorable conditions for this industry are found in Western and Central Maryland. The raising of early lambs is probably the most profitable branch of sheep-raising and should be more largely pursued.

Hogs are extensively grown in the dairy and mixed husbandry sections of the State. They are reasonably free from disease and always meet with ready sale at remunerative prices. The raising of hogs is sure to increase when farmers in the cowpea sections of the State come to realize the value of this crop in producing pork of exceptional quality very cheaply.



GENERAL VIEW OF EXHIBIT, FIFTH REGIMENT ARMORY, DECEMBER 5 AND 6, 1906.

REPORT

OF THE

NINTH ANNUAL MEETING

OF THE

Maryland State Horticultural Society

HELD IN

Baltimore, December, 5th and 6th

The Ninth Annual Meeting of the Maryland State Horticultural Society was held in the Fifth Regiment Armory December 5th and 6th, the armory being beautifully decorated with evergreens and southern smilax which, together with the largest exhibit of fruits, vegetables and flowers ever shown by the Society, made a very pleasing spectacle. The attendance throughout the sessions was larger than ever before, averaging about 500, counting young and old and including those who came to observe the exhibit.

WEDNESDAY, 2 P. M.

Meeting was called to order by President E. P. Cohill, who expressed the regrets of Cardinal Gibbons for not being present on account of sickness, and who introduced Rev. Wm. A. Fletcher, who delivered the invocation.

ADDRESS OF WELCOME.

HON. E. CLAY TIMANUS, *Mayor of Baltimore.*

Mr. President, Ladies and Gentlemen; and the Members of the Horticultural Society and Residents of the Grand Old State of Maryland and the City of Baltimore:

I bid you a hearty welcome, and say to you that the city of Baltimore, while here, belongs to you. It is a large part of the State of which you are all members, and we are of course proud of our city as we also are of our State. While you are holding this great Horticultural Exhibition the city is thrown open to you. I intended to bring with me this morning a key which is sometimes passed around—the Key of the City—but it is almost too large for me to bring. However, you will not need it, and you'll find all the latch-strings hung on the outside. I hope that while here, in convention assembled, you will thoroughly enjoy yourselves, and I know that good will come of this meeting.

This is one of the pleasant duties the mayor of the city is called upon to perform almost every day, and sometimes two or three times a day—the welcoming of delegates here assembled. Yesterday it was my pleasant duty to welcome the Master Plumbers' Association, and to-day I am proud to greet the members of the Maryland Horticultural Society. I said to them, and I now repeat to you who are all members of our State and interested in the city's welfare, look around you while here and be proud with us of our great improvements, and note the marked advancement everywhere. Give us the benefit of your criticism, as we know it will come with the proper spirit. I am sure the members of our Park Board would be well repaid if they would only come and see what you have on exhibition. They don't grow such delicious fruit as I see here before me, but we do try to cultivate some of the beauties of nature in our parks, where we may go for a few hours or a few moments of recreation, and we do want some of you who so well understand this subject to look at our landscapes, and give us a few words which will be of advantage to the city.

I again welcome you to Baltimore, and am certainly glad we are able to place at your disposal such a building as this where you can make your representation to the people. I trust you will be well taken care of while here, and that when you return to your homes you will carry with you pleasant recollections of your visit, and that you will look forward to being with us each and every year at this time for sure, and more often if possible.

RESPONSE.

HON. ORLANDO HARRISON, *Berlin, Md.*

Mr. President, Ladies and Gentlemen, and Mr. Mayor:

I feel modest in the presence of representatives of Baltimore city. On behalf of the fruit-growers of the State of Maryland and the Maryland State Horticultural Society, we accept your welcome in the same spirit in which it is given.

Mr. Mayor, we have been partially familiar with your thriving city for years, but the new Baltimore we want to know even better.

Your city is known over this country for her hospitable people, for her great and substantial business houses and honest methods of dealing. We, the fruit-growers who live in the country claim an interest in the city, especially we Eastern Shoremen regard Baltimore as a city of great importance, not only within the borders of our great State, but a city of National importance. You have cost us some money, but you are worth all you cost and we are proud of you.

Again, we are glad to be in Baltimore on this particular occasion for the reason that this is a city of progress and enterprise, and this is the keynote to success with the fruit-grower. Very early in its history she had daily papers, second in efficiency and influence to no papers in this whole land of ours.

In her commercial enterprises she ranks with the greatest of modern cities.

In reference to the *progress* of our great city, since the fire of 1904, I desire to say that you people of Baltimore have displayed great moral courage.

The sturdy manhood of the sons of Maryland have raised upon the ruins of great Baltimore a City greater than was ever dreamed of by our forefathers. Go on with your progress and let's make our city and our State what they have deserved to be: the leaders of this Republic in all things.

Baltimore can boast of her churches, her universities and her institutions; here we find churches of beauty and influence. All of the real monuments of which you should boast are the men and women of character.

In view of all this, as fruit-growers we have a claim on you. We, the tillers of the soil of the State of Maryland, produce about thirty-five million dollars annually. I claim that any State which produces so much wealth by means of its farmers and gardeners should be entitled to a building in the great Central City of the State, which should be known as a Horticultural Hall.

I ask here to-day that some men of Maryland donate a plot of land for this purpose, and ask that the State erect a building for the farmers, truckers, fruit-growers, and centralize various office buildings of the State that are located in Baltimore city in one, which will be economy to the State and give the tillers of the soil an opportunity to put our products on exhibition in our city continually, and let us show what we can grow in this grand State of Maryland.

We spend about two and one-half million dollars with you for fertilizers annually and an equal portion for the necessities; we are glad to patronize home industries.

To the people of Baltimore city, you do not know what is in store for you in the country; nearly one-half of our great State is yet undeveloped; no State in the Union can offer such varied opportunities in fruit-growing as Maryland. We have the rich level land and the fertile mountains. Why do you seek investments out of the State when you have greater opportunities at home for investments of capital? Why send your son out of the State to find profitable employment, when the Eastern Shore soils offers ample opportunity for growing fruits? If you are not satisfied with the level lands, go into the mountains.

You have untold opportunities with the country people; get acquainted with them and share with them some of the real pleasures and profits and be independent.

Now, Mr. President, we have been sending the boys to the cities for years, when are we to be paid back?

Mr. Mayor, how many sons of Baltimore can you furnish us to help keep the citizens of Baltimore supplied with fruits and vegetables? Unless conditions change and the citizens do their part to encourage the boys to cultivate the soil, who will there be to care for this great agricultural State of ours?

Now, Mr. Mayor, on behalf of the Maryland State Horticultural Society, we thank you for this kind welcome and hope to meet with you again in this great thriving city, which we all claim as ours.

REPORT OF THE SECRETARY AND TREASURER.

PROF. T. B. SYMONS, *College Park.*

Mr. President, Ladies and Gentlemen of the Society:

I have no especial report to make as Secretary, except that the work of the Association has been carried on with as much vigor and enthusiasm as possible during the past year. The summer meeting at the home of J. G. Harrison & Sons was the most successful in the history of the Society. About 500 persons attended the same and, all, I think, were well pleased with their trip, and very appreciative of the many courtesies extended by the Messrs. Harrisons.

As you all know, this has not been a fruit year in Maryland, and we have had great difficulty in getting up this great exhibit, but "In unity there is strength," and if we continue during the succeeding years, as in the past one, I feel sure that the Society will have more influence, and do much more good in developing and fostering the great horticultural possibilities of Maryland.

My report as Treasurer may be briefly made, by stating that the finances of the Society are in a much more healthy condition than heretofore, owing to the increase secured by your worthy Legislative Committee. I may add that my report this year will only cover expenditures up to October 31st, as per the order of the Executive Board that the fiscal year of the Society should coincide with the dates in the State Constitution.

There is now $1,889.98 in the treasury, but of course the many expenses, viz.: expressage on fruit, premiums, and various other expenditures in connection with this large exhibit, as well as the cost for printing the annual report, will have to be deducted from this seemingly large amount on hand.

J. B. S. Norton, Treasurer, in account with the Maryland State Horticultural Society.

1905.

Dec. 1,		Balance on hand		$955.67
Dec. 5—	1	Paid Thomas & Evans, printing circulars	$ 10.00	
Dec. 5—	2	Paid Ability Sign Co., signs for exhibit	2.70	
Dec. 8—	3	Paid Johns Hopkins University, expenses of hall	10.00	
Dec. 15—	4	Paid J. B. S. Norton, compensation as secretary.	100.00	
Dec. 23—	5	Paid F. E. Rumig, railroad fare to Baltimore for two assistants	2.85	

Dec. 23— 6	Paid T. B. Symons, expenses of Exhibit committee—$25 allowed by Exhibit Board	37.40	
Dec. 23— 7	Paid J. B. S. Norton, sundry expenses as sect'y	48.43	
Dec. 23— 8	Paid Chas. G. Biggs expenses at Board meeting.	1.50	
Dec. 23— 9	Paid Whitehead & Hoag, badges	18.00	
Dec. 23—10	Eutaw House, expenses rooms and hotel bills of assistants, officers and speakers	82.25	
Dec. 23—11	Paid Sun Job Printing Office, cloth posters	8.00	
Dec. 23—12	Paid C. F. Sudwarth, printing programs, envelopes and entry tickets	18.75	
Dec. 23—13	Paid J. P. Shamberger, work on shelves for exhibition	2.20	
Dec. 23—14	Paid H. J. White, railroad fare and assisting at meeting	.95	
Dec. 23—15	Paid Baltimore Ref. & Heat. Co., freight on fruit, etc.	1.65	
Dec. 29—16	Paid W. F. Allen, expenses at Executive Board meeting	4.05	
Dec. 29—17	Paid J. H. Hale, expenses as speaker at meeting.	22.25	
Dec. 29—18	Paid H. W. Collingwood, expenses as speaker at meeting	12.00	
Dec. 29—19	Paid Samuel Garner, express on exhibit fruit.	1.40	
Dec. 29—20	Paid R. O. Shipley, express on exhibit fruit	.30	
Dec. 29,	Received on Horticultural Directory since Dec. 1		3.00
Dec. 29.	Donated to premium fund		4.00
Dec. 29,	Donated by L. G. Orndorff in 1904 secretary's account Jan. 24, 1904, voucher No. 12		5.00
1906.			
Jan. 1,	Drew checks to T. B. Symons, new treasurer	582.99	
		$967.67	$967.67

J. B. S. Norton,
Treasurer.

T. B. Symons, Treasurer, in account with the Maryland State Horticultural Society.

1906.			
Jan. 1,	Received from Prof. Norton, check		$ 582.99
Jan. 10—1	Premiums for fruit	$ 68.50	
Jan. 10—2	R. B. Thomas, express on fruit	1.85	
Jan. 10—3	Hyattsville Independent, printing circulars	6.50	
Jan. 10—4	W. N. Tracy, expenses at annual meeting	5.50	
Jan. 15—5	Geo. H. Calvert, stamps	1.77	
Jan. 15—6	J. B. S. Norton, stamps	5.00	
Jan. 20—7	Frank Eline & Co., stereopticon hire	10.00	
Jan. 23—8	American Bonding Co., premium on bond	15.00	
Jan. 23—9	T. B. Symons, stenographic report, etc	29.75	

Feb. 5, Maryland Engraving Co., cuts for annual report	14.30	
Feb. 23, Geo. H. Calvert, stamped envelopes	10.60	
Feb. 27, J. E. Carter, expenses at 1905 meeting	6.73	
Feb. 27, C. F. Sudwarth, printing letter heads	8.00	
Feb. 27, Albert Repp, expenses 1905 meeting	8.00	
March 26, Geo. H. Calvert, stamps	74.00	
March 30, Young & Seldon Co., clasp envelopes	14.49	
April 10, S. O. Boudoin, postmaster	7.00	
April 12, W. J. C. Dulaney Co., printing report	257.35	
May 2, T. B. Symons, miscellaneous expenses	14.32	
May 2, Thos. Parran, clerk certified copy of law	1.25	
June 8, C. G. Biggs, expenses at Board meeting and securing appropriation	25.00	
June 8, Howard M. Strout, stenographic work	10.00	
June 8, Received part of annual appropriation		1,000.00
June 20, American Bonding Co., premium on increased bond	7.00	
July 13, S. O. Boudoin, stamps and mailing announcement of summer meeting	10.00	
July 21, S. O. Boudoin, 1,000 stamped envelopes	21.20	
Aug. 22, E. P. Cohill, expenses at meeting of Board	13.28	
Aug. 22, Prof. Waugh, expenses at summer meeting	50.00	
Aug. 24, Whitehead & Hoag Co., badges for summer meeting	10.00	
Aug. 24, C. F. Sudwarth, printing for summer meeting	30.63	
Aug. 24, G. A. Henderson, stenographic report, in part	50.00	
Aug. 24, Orlando Harrison, money advanced G. A. Henderson for stenographic report	25.00	
Aug. 25, Received balance of annual appropriation		1,000.00
Sept. 5, G. A. Henderson, balance due for stenographic report	22.94	
Sept. 5, Orlando Harrison	1.31	
Sept. 6, T. B. Symons, expenses May 4th to Aug. 10th	24.04	
Sept. 17, Remington Typewriter Co., carbon paper	2.35	
Sept. 17. A. B. Gahan, expenses at summer meeting	6.75	
Sept. 17, H. F. Harmonson, board of Prof. Waugh	4.00	
Oct. 29, Howard M. Strout, stenographic work	10.00	
Received from advertisements		190.00
By cash from fruit		.40
	$883.41	$2,773.39
Balance		$1,889.98

The Treasurer's report was referred to the Auditing Committee.

The following resolution was then offered by Hon. Chas. G. Biggs, and adopted by the Society:

Resolved, That it is the sense of the Maryland State Horticultural Society that the million dollars annually expended by the National Government in the purchase, preparation and delivery of free garden seeds, is an unwarranted application of public funds; that, as cultivators of the soil, we are in a position to know, and do know, that farmers and others receiving this gratuity, which they neither seek nor desire, are not benefited to any appreciable extent thereby, but that, on the contrary, we know that much of the seed distributed is of comparatively little value, and that a large quantity of it is never planted; that, even if the seed were of conspicuous merit, the quantity received by each individual is insufficient to be of measurable service; that the money actually wasted by this annual appropriation, if judiciously applied, would be of infinitely more value to the agricultural interests of the country. We see no reason whatever why the National Government should enter into injurious competition with the seed business throughout all its ramifications, from producers to distributors.

Therefore, speaking for the agricultural interests of Maryland more especially, and, as we are convinced, for these interests throughout the country, we earnestly protest against any Congressional appropriation for free seeds or their distribution.

We appeal to the Senators and Representatives in Congress from our State to oppose by voice, vote and influence this wasteful extravagance, and we direct the Secretary of this Society to send a copy of this resolution, attested by our common seal, to each of the Senators and Representatives in Congress from Maryland.

The President then called for the reports of the Standing Committees.

REPORT OF THE COMMITTEE ON BOTANY.

CAPT. CHARLES MCILVAINE, *Cambridge.*

There is no channel of human existence into which the knowledge or use of plants—Botany—does not directly or indirectly enter. Its influences are international, interstate, inter-communal. The world is being ransacked, nowadays, for both ornamental and commercially productive plants. It is no longer an honor to a plant that it remains indigenous to a section. Migration, hardihood, productiveness within the greatest range of latitude, mark the values of vegetal and textile growths. The botany of Maryland to-day will not be its botany to-morrow. Elimination and increase mark successful progress.

An article, "Our Plant Immigrants," by David Fairchild, Agricultural Explorer, in charge of Foreign Exploration for the Department of Agriculture, published in *The National Geographic Magazine* for April, 1906, tells interestingly of many plants recently brought to the United States, which will add materially to the wealth of our country's product, and that over a dozen new foreign growths arrive each day, to be tried and spread by the Department.

Long before the Argonauts of '49 developed the rich gold deposits of California, the Catholic Fathers brought to California a single plant of alfalfa. That one plant has turned two millions of acres of land into the most generally profitable farm land of the country. These same Fathers, from cuttings of the olive tree, began the cultivation of that fruit which to-day grows upon thousands of acres of the best-tilled olive orchards in the world.

Orange cuttings from Brazil, brought by a woman, produced descendants which constitute the famed orange groves of California. Durum wheat, from southern Russia, is supplanting all other wheats upon the dry lands of the Dakotas and Nebraska. The Smyrna fig is thriving in the garden of the writer, alongside of the Malin horseradish from Bohemia. Alfalfa and Crimson Clover are supplanting the red clover of our fathers. Citrus fruits are everywhere known. The Japanese have erected a monument in a churchyard at Fukushoji to the man who, 1800 years ago, introduced them to Japan. Japanese plums, Japanese persimmons, put to blush our native products. Congress is considering a bill authorizing the issue of letters-patent to the discoverer or creator of a new plant. Why not? Subject to the assaults of insects, worms, microbes, bacilli, fungi, rain, wind, drought, heat, cold, as the horticulturist is, he should have all the protection human brains and human laws can give him, that his benefits may be increased.

The indiscriminate and costly distribution of seeds through Congressmen, by the National Agricultural Department, should be curtailed. Let the Department send acquired seeds and plants to the experiment centers suiting their climatic necessities. Let the experiment stations test their values and exchange accurate results with one another. Finally, direct or through their authorized agents, let the experiment stations place the seeds or plants in the hands of those growers who will carefully, systematically, plant and report upon them from their several districts, and in turn, distribute samples of worthy growths to their neighbors. Church and State are separated by the Constitution; it is quite as important to separate politics and potatoes.

In selection, crossing, improvement is man's triumph over Nature. The horticulturist, the agriculturist, has become a scientist. He has discovered many of the methods of evolution; he uses them, investigates them, improves them to his own uses.

There are wizards in eletcricity, metallurgy, chemistry, tearing apart the atoms of all sorts of structures and building anew—wielders of the true Philosopher's Stone, changing all things, through the crucibles of industries, into gold. Man has produced but one creator—Burbank—a maker of new species. He is a horticulturist—one of us. He is a botanist creating a new botany. He has shown that from six to ten generations suffice to establish a plant "Along the lines of its new life, not by any means along ancestral lines." The possibilities of his showings are unlimited. A new vegetation is at hand suited to every want of man.

As an improver of species, he is far from being alone. The Government stations are testing varieties, selecting and disseminating accurate knowledge of the best, deciding upon the best methods for planting, fertilizing, cultivating, preserving, marketing. They are fixing plant rations with the certainty of desired results: they are analyzing soils and exploiting remedies for their ailments and tonics for their healthy preservation. The intelligent plant-grower no longer talks of "signs" and moon phases. He glibly and intelligently dwells upon and puts his faith in nitrates, sulphates, phosphates and other aids manufactured for his use. The seedsmen rival one another in breeding seeds for every clime and soil, for weight and size, color and product. The grower learns from his ground as from a book, chooses his tracts for the cultivation of those plants which will produce best results from the soil qualities, and skilfully surveys his acres as master of their every detail. The annual assemblies of the producers from the soil are exchanges for experiences and ideas; the Farmers' Institutes are the travelling disseminators of expert opinions—the vocal and sample guides to increased and more valuable soil production.

One of the greatest values promised by the true horticulturist is in his ability (he should consider it his duty) to coach, instruct his less well-informed neighbor—the small farmer, the tenant, the laborer. Loan them the Farmers' Bulletins, tell them how to obtain them or obtain the free publications for them. It costs but a postal card. Loan them the agricultural papers and newspaper clippings which are instructive within their interests. Such brain soil is receptive; make it productive.

The word "Botany" is a bugaboo to many; domesticate it in families as their best friend. Inoculate with the friendly virus of intelligence; it will solve labor problems.

Whoever will read through Gray's little book, "How Plants Grow," cheap, condensed, simple in words, will get a working knowledge in Botany and its uses that will lead deeper and deeper into the enjoyment and profit of it. Apart from the substantial money yield such knowledge produces by its application, it furnishes a delightful companion in the home, field, woods, and wherever our perigrinating habits lead.

Not with a view to financial gain only should we consider plant lives—their living currents, their power of selection, their power to reproduce. They possess energies—their joy in vigor, their depression in weakness. They have nerves, senses. Who has watched the Sundew close upon the insect which has touched its granular hairs that will deny it the sense of feeling? Or who has observed the Dodder, true parasite that it is, reaching from plant to plant, discriminating between those which it can rob for its nourishment and those which it cannot, that will deny its delicacy of touch and ability to choose thereby? The sunflower, the convolulus are familiar examples of plant sensitiveness to light. The Mimosa, of South Africa, feigns death in time of danger; from its natural, vivid hue, it collapses into a tangle of withered stems upon the touch of any living animal. Plants are our friends, our comforters, our supporters in health and sickness. They belong to the great family of the Creator. They are our fellows. Save the Holly, under whose leaves and berries the Brownies and Fairies, real to our ancestors, play; better still, where the laugh of Christmas cheer and happy home-life is heard. Spare the nut trees, even though they preëmpt cultivatible ground. Protect the fruit trees which have modestly appropriated fence corners. Spare the cedars that shade the lanes, give berries to the birds and keep of Summer's green to enliven the Winter's landscape.

Forestry is the preservation of proper botanical balance in timber growth and the maintenance of a healthy timber supply. Aboricide is passing. Arboriculture is becoming part of the farmer's equipment.

The word "Forestry" conveys to the farmer, as a rule, an undertaking beyond his individual means and probability of reward within his allotted three-score years and ten. If it is true that he is not likely to personally reap his reward for properly selected, planted and cared-for trees; if it is true, and it is, that men love to perpetuate their power beyond the grave, by leaving their property to their children and children's children, as far as the law permits; why not plant now and bequeath the ever-increasing value of growing trees to future generations?

The United States Government Forest Reserves are estimated as worth $250,000,000 in cash. The annual increase in value is not less than ten per cent. These forest reserves are administered at a cost of one-third of one per cent of their value. The total sales of timber from them in the year 1905 was $273,659.82. The enormous increase in woods values under State forestry laws and administration is obtainable by all. The value of farm forestry is incalculable, but each farmer can estimate, approximately, the cost and value of it upon his own property. No calculation will pay him better. Trees are a surer value than otherwise invested cash. The capital, labor, invested in them increases annually. Their growing pays an enormous interest on the original investment. Teach the boys and girls what trees to plant and where and how to plant them. It is as easy to plant and grow trees that will grow nuts or fruits as it is to plant the comparatively worthless maples and other purely ornamental trees that usually stud our lawns and lanesides. The walnut, shellbark, chestnut, pecan, filbert; the cherry, apple, pear, persimmon, peach, are the equals of any trees for ornamentation and usefulness. Lilac hedges excel as wind-breaks, and annually yield from their white and lilac flowers a handsome income to those who ship them, properly packed, to the markets of our cities. A neighbor of the writer has derived such a remunerative income from a somewhat neglected lilac hedge that he is considering planting many acres with the shrub.

The American Holly (*Ilex opaca*) is indigenous to the belt in which Maryland lies. There is no evergreen more picturesque. Its value is constant. In a hedge it is unsurpassed. Its foliage and scarlet berries command high prices at Christmas times. The trees profit by the judicious annual trimming. The wood is expensive. It is in demand for turners' uses, the engraver's work, knife handles, etc. The Holly is rapidly being deformed, slaughtered, debased for the tree peddler's profit. Transplant and care for every young Holly obtainable. The English Holly, so prized in England, will not thrive in either our Northern or Southern temperatures.

The horticulturist, when fruiting time comes, ungratefully forgets the benefits he has derived from such omniverous insect-eaters as the robin, the catbird, the crow, the blackbird, and scolds in his most emphatic vocabulary when they indulge in fruits to their liking. In the remedy is charity, pleasure, profit. Along the farm fences, in unprofitable corners, in obscure nooks, grow volunteer stocks of the cherry, plum, apple, peach. Seek them out; graft them with choice scions. The birds of every neighborhood are limited in variety and number. Grow plenty of fruit, that they may have their deserved share. Then there will be enough and to spare for home consumption and sale. As well kill the honey-bee upon the ripened peach, after its constant labor in fertilizing our crop blooms, as kill the insect-eating bird for nipping where it has helped preserve.

The horticulturist abominates the very name of fungus; yet he has, in every section, a healthy, toothsome revenge, a choice one, if he will but know a few of the many toadstools that grow in abundance upon his lawn, his manured lands, from his pastures, in his woods. All of the puff balls are delicious when white inside. When yellow inside or old, they are bitter, but even then, not poisonous. The little brown-capped toadstool growing in clusters about posts, pavements, trees, on open lawns, with conical caps and white gills, are unsurpassed when stewed five minutes and seasoned to liking. There is but one poisonous toadstool that grows in open fields. It is lusty, handsome in growth, with a rough cap, and with a ring about its stem, and having gills which have a greenish tinge. It is one of Maryland's new plants—the *Lepiota morgani*. As showing the migratory habits of some plants; this fungus was not found east of the Ohio River until the writer found it in Dorchester county, Maryland, in 1905. Five out of six can eat it with enjoyment; it may make the sixth very sick. A puff ball, not before found east of Indiana, was found last year near Cambridge, Maryland. The natural trend of plant migration seems to be from West to East. The minute spores of fungi are carried by the winds.

In no branch of Science has there been a steadier, surer advance than in the improvement of seeds, in the plant life of the farm and its culture. The horticulturist, the agriculturist, together and subdivided into specialists, are the food-makers of the earth. In their intelligence, their perserverance, their energy, their united action, is plenty and of the best to all the people thereof.

REPORT OF COMMITTEE ON NEW FRUITS.

J. W. KERR, *Denton.*

Turn back a dozen pages of the folio of your memory and notice critically what an inspiring interest was aroused in every assemblage of fruit-growers then by the mere mention of those two little words—new fruits! Distinctions as to class had no place on the great map of supposed improvement. Apple, peach, pear, plum, cherry, berries, grapes, or what not, just so it was new, possessed it with complimentary admission to the Academy of Arts in lithographic catalogue designing—to the college of professional description—and even to the university of commendation. Delightful days, those—for the classes; a carnival in kind for ill-requited originators and ambitious introducers. Most of our progressive nurserymen painted their catalogues red during those days of roseate novelty. How marvellously changed and defiantly different are the feelings of fruit-growers to-day with respect to those once fascinating words. The number thirteen is in no less favor with the Arab than are the words "new fruits" with the wise and substantial grower. If your life is above reproach, such as begets a conscience void of offense and propagates within your breast a calm, serene feeling of peace and good-will toward your fellow-man (?); if you have unerring proof that your word is always at par with your neighbor (?), give the matter the supreme test of trying to introduce among them trees or plants of some *new* variety of fruits—and right there is where your character will find the banana skin that will bring it down with a jolt as though it had descended from Mars. What cause lies behind this rather embarrassing revolution? The novelties of that period, that came like the tide at its flood, have been subjected to practical test; their merits analyzed and measured critically, yet fairly, by this process, consigned ninety-five per cent of them to oblivion they deserved. Occasionally, mercenary persistence succeeds in keeping a worthless fruit afloat in commercial horticulture, in spite of educated, honest effort to the contrary; a point in rather surprising evidence is the so-called seedless apple—and would it be much out of the way to add to this the Ben Davis apple and the Kieffer pear? There is a world of difference, however between the *seedless* apple and the Ben Davis and Kieffer pear, as the benefits derived from the former will in no instance extend sufficiently far to reach the planter, while the effulgent philanthropy embodied in the latter embraces among their beneficiaries even the needy and diffident transportation companies.

New fruits are indispensable to progress in horticulture. What would be the conditions in peach-growing to-day without the Elberta? Only a few years back *it* was a new variety. Where would grape-growing anchor without the Concord? Very, *very* occasionally a new fruit is introduced that not only wears, but fills a great want that was never so apparent prior to its advent. It requires but a meagre knowledge of the history of American fruit-growing to establish both the importance and necessity for new fruits—or new varieties. There is but a single well-founded objection to the introduction of new varieties, namely, so many of these prove unprofitable to the planter. Very often these new varieties place nurserymen in awkward positions. Their customers read of them in some yellow journal of horticulture, when the inspiration of badly-needed financial promotion has described them in varnished adjectives, and straightway the nurseryman is applied to for them. If he does not have them in stock, he is written down as antediluvian in his business methods. If, however, he happens to have them and supplies his eager customer with them it soon follows that he is written down a grand rascal. As a whole, new fruits beget worry, disappointment, vexation of spirit, speaking evil about your neighbors, jarring and jolting of confidence. Yet as a segregated item, they constitute the touchstone of horticultural patience, progress, nobility and genius. Occasionally, new fruits are simply the progeny of chance or accident. As a rule, though, they are the result of patient, intelligent effort guided by a fixed purpose, backed by a hope ending in satisfactory fruition, on an average of once in a thousand trials. He who earnestly strives to improve on the varieties of any class of fruit by originating kinds that are in some marked manner better than those already under culture, embarks in a very illusive and uncertain business. We *must* have the new varieties, however; the continuous evolution of conditions of every description bearing upon fruit-growing accentuates not only their importance but our great need of them as well. That there are entirely too many varieties of fruit already is a fact; it is none the less a fact that the number of varieties that can be rated as commercially first-class would not constitute a burdensome list for any authority to embrace, if said list were intended for but two or three States; but usually our authorities on such subjects are compelled to consider with business regard the fact that the wider the area treated the probably greater volume of sales of their books.

The most profitable kinds for Maryland in many cases rate very low in value when geographical, soil and climatic conditions are different. Do Maryland fruit-growers really need a variety of apples earlier than the Yellow Transparent, or better than the Early Ripe? Is there need for winter varieties superior to Stayman Winsap, Rome Beauty, Grimes Golden, Mammoth Black Twig, Nero and Winesap? There are no new kinds known to your committee that are likely to supersede any of these for some time to come. In peaches, is there anything earlier than Greensboro that is worthy of commercial notice? The St. John and Foster should be displaced by better kinds of their respective seasons, but there are no new varieties that are candidates for the job. In apples, peaches, pears, cherries and plums, your committee is unable to report anything better than progress and ask for more time.

Proceeding to the small fruits, we report the market in new fruits rather dull, notwithstanding the crying need of a market variety of red raspberry, to take the place of the once popular and profitable Miller; but a successor is not in sight. Even new varieties of grapes have ceased to appear to the public by the patent roller process as heretofore. There are a couple of new varieties of gooseberries quoted in a few catalogues at novelty prices, but there is not at present much value attaching to this as a market fruit in this immediate locality. Nothing new in currants or blackberries that warrants notice by this Society. Lastly, we present the strawberry and refrain from particularizing or conjecturing as to the merits of the new kinds for the reason that strawberry novelties are too much like April showers, conspicuous by their lamentable lack of longevity.

REPORT OF COMMITTEE ON ORNITHOLOGY.

Some Points In Economic Ornithology.

PROF. F. E. L. BEAL, *U. S. Biological Survey.*

While it is generally acknowledged that birds of many species subsist largely upon insects and thereby destroy great numbers of them, it is often denied that they feed to any considerable extent upon those special species that by their ravages upon the products of husbandry have become known as pests and against which science has waged its most persistent warfare. In the following pages it is purposed to give a few instances of the destruction of various specially injurious insects by birds, and show how largely these enter into their daily fare.

There are probably few orders of insects that are so largely made up of injurious species as the Hemiptera. Among these may be specified as of the worst, the scale insects (*Coccidæ*), the plant lice (*Aphidæ*), the leaf hoppers (*Jassidæ*), with a host of others that are almost equally injurious although they have not attracted so much attention except in a few isolated cases. That a number of species of birds feed habitually upon scale insects is perhaps not generally known, but in the investigations of the food of birds now being carried on by the United States Department of Agriculture no less than fifty-six species have been found to eat scales and some of them to a very considerable extent. As would naturally be expected this list includes such small species as the titmice, the warbles, the wrens, the vireos, but it also includes some larger ones that one would hardly expect to resort to such insignificant morsels; such are the rose-breasted grosbeak, the black-headed grosbeak, various species of woodpeckers, the cedar bird, and even the blue jay in the East and his Western relative, the California jay. While it is possible that with many of these birds this diet is accidental or unusual, it certainly is not so with a majority of the list. With many of the warblers and wrens, and also the titmice, the annual diet includes at least from four to five per cent of scales, but with many species the percentage is much higher. One of the best examples is the California bush tit, which eats scales to the extent of 21 per cent of its annual food. Of 324 stomachs of this bird examined, 152, or more than 46 per cent of all, contained scales. When we consider that the specimens were collected at random at all seasons of the year, it certainly shows that these insects are a very common article of diet with this bird. Only one other item of food exceeded this in percentage or in frequency of occurrence and that was made up of other species of the order Hemiptera and consisted largely of plant lice.

It must be borne in mind that this percentage of annual diet does not express the real capacity of the bird for eating this or that particular food. During the breeding season they eat a much larger proportion of animal matter, and it is not unusual to find the stomachs of individuals killed at that time entirely filled with scales. This is also the season when the scales are the most active and are reproducing so that the ones taken by the birds are often found to be completely filled with eggs, and thus not only is the individual destroyed but all of its progeny. It can easily be imagined that in the examination of the contents of a bird's stomach, which is likely to be a mixture of broken insects, seeds, berries, etc., some of the elements may be difficult to identify. This is especially true of such degraded forms as the scale insects. They present so few characteristics after being eaten that, while they may be distinguished from other insect food, it is often impossible to determine to what species or even genus they belong. In many cases a pasty mass in the stomach tells the experienced examiner that he has a lot of scales, but the process of digestion may have advanced so far that all diagnostic points have been destroyed and the most exhaustive examination will fail to disclose a single mark by which the genus or species can be determined.

Nine species of scales belonging to five genera have, however, been identified in the stomachs of birds with a reasonable degree of certainty and two other genera have also been identified, of which the species could not be determined. The following is a list of the species in genera:

The Greedy Scale (*Aspidiotus rapax*).
The Plum Scale (*Eulecanium cerasifex*).
The Locust Scale (*Eulecanium robiniarum*).
The Tulip Scale (*Eulecanium tulipifera*).
The Hickory Scale (*Eulecanium caryæ*).
The Apricot Scale (*Eulecanium armeniacum*).
The Cottony Maple Scale (*Pulvinaria innumerabilis*).
The Black Olive Scale (*Saissetia oleæ*).
The Oyster-shell Bark Louse (*Mytilaspis pomorum*),
The Oak Scale (*Kermes sp.*).
" " " (*Toumeyella sp.*).

Another pest of plant life belonging also to the order of Hemiptera is the family of plant lice (*Aphides*). There is probably no land plant that does not at some time suffer from the attacks of these creatures. No part of the plant is exempt. There are species of these insects that prey upon the roots, the stem and twigs, the leaves and the blossoms. The species are almost innumerable and they are so wonderfully prolific that if their increase is not restrained the plants which they infest are soon swarming with them. As their bodies are of a fragile and delicate texture it would not appear that they contained enough of solid substance to render them desirable as food by birds. Such, however, is not the case. Plant lice are preyed upon by many species—just how many it is not possible to state at the present time—but it is probable that a complete list will be nearly coincident with that of the insectivorous birds.

Among the most prominent birds in whose stomachs plant lice have been found may be mentioned the woodpeckers, the warblers, the titmice, the wrens, the vireos, and several larger birds, such as the grosbeaks and orioles. In many cases the stomachs of these birds have been found completely filled with the remains of these insects, and as their structure is so delicate they often can only be identified by their detached legs or their broken off honey tubes. Not only do the birds that naturally obtain their food from trees eat plant lice, but even the fly-catchers that take most of their food in mid-air do not disdain to alight and feed upon what must be to them a dainty morsel. The writer last summer shot an ash-throated fly-catcher that was perched upon a mustard plant covered with lice upon which the bird was eagerly feeding. It had its mouth full when shot. Only three per cent of the food of the California linnet consists of insects, yet nearly all of that is composed of the woolly aphis that infests apple trees. A pair of downy woodpeckers were watched while they were feeding a brood of four young. The observation was carried on in one-hour periods on different days till twelve hours of feeding had been recorded. It was noticed that the birds almost constantly came to the nests with their mouths filled with some white substance. Upon further investigation it was found that they were feeding their young upon the woolly aphis which they obtained from a certain part of the orchard where the apple trees were infested with that insect. The places from which these creatures had been gathered by the birds were plainly to be seen.

The spring of 1900 in Massachusetts was the most backward that had been experienced for many years. The prevalence of cold, dry winds checked the development of both plant and insect life. In the meantime the warm weather farther South had sent the birds on their northward journey by thousands, but owing to the peculiar conditions at the North the usual supply of food was wanting. The birds of the warbler family (*Mniotiltidæ*) were especially put to it to find something to eat, and were seen invading sheds and other outbuildings in search of spiders or dead insects to be found in such places. At this time the apple trees were just beginning to expand their buds so that the trees were covered with rosettes of unexpanded flowers surrounded by small leaves. One morning the attention of the writer was attracted to a row of apples trees, several of which were almost swarming with chestnut-sided warblers (*Dendroica pensylvanica*), with a few of other species. It was noticed that these birds were busily engaged examining each rosette of buds and apparently getting something from them. An examination of the trees which the birds had not yet reached, showed that each and every rosette was occupied by from one to half a dozen large, plump plant lice, and it was evidently these that the birds were seeking.

Other Hemiptera form a large element of the diet of such small birds as the titmice, wrens, warblers, etc. Such groups as the leaf-hoppers (*Jassidæ*), the tree-hoppers (*Membracidæ*), the spittle insects (*Cercopidæ*), and others, while they have in only a few cases attracted attention by the harm done, yet are a very serious damage to many forms of vegetable life including many cultivated plants. The following is a list of a few common birds with the average percentage of Hemipterous insects found in their stomachs throughout the year:

Warbling vireo..........	23	per cent.	Ruby-crowned kinglet....	24	per cent.
Hutton vireo............	49	"	Orange-crowned warbler.	33	"
Solitary viero...........	47	"	Eave swallow............	27	"
Bewick wren.............	30	"	Violet-green swallow.....	36	"
Marsh wren..............	28	"	Bank swallow............	63	"
Bush tit, other than scales.	31	"	Barn swallow............	38	"

These insects are almost without exception harmful species and many of them have habits of life that render them difficult to be dealt with by the ordinary means of destruction which have proved so efficacious with some other species. The high percentage shown above indicate that this food is an important element of the daily fare of many birds, and it needs but little reflection to show that such daily and incessant destruction means a tremendous diminution in the insect ranks. We see the hosts of insects that remain. We do not see, and can only imagine, what these hosts would be if the birds were eliminated from the equation.

A large number of orchard pests are found in the order Lepidoptera, that is the butterflies and moths. Few if any of these commit any ravages when in the adult state, but as larvæ, commonly known as caterpillars, many of them are among the worst pests that the fruit-grower has to contend with. Investigation shows that one of the largest elements of the food of many species of birds is composed of these larvæ. They are eaten by nearly every species of insectiverous bird—even fly-catchers which are commonly supposed to limit their diet to insects taken on the wing, do not disdain to pick caterpillars from the leaves of trees and devour them. Two species of North American birds are especially noteworthy for their destruction of caterpillars. These are the cuckoos (*Coccyzus erythropthalmus* and *C. americanus*). Caterpillars constitute nearly one-half of the seasonal food of these birds and a large proportion of them consist of the hairy species which do not appear to be so palatable to other birds. As illustrating what these birds can do in the way of caterpillar destruction, there may be cited two stomachs, one of which contained 217 fall web-worms (*Hyphantria cunea*), the other, 250 tent caterpillars (*Malacosoma americana*). These caterpillars being covered with hair are not extensively eaten by most birds, but the hairy covering seems to be no objection from the cuckoos' point of view, so these species and many other hairy ones are freely eaten.

The orioles eat many caterpillars but usually select the naked species. One hundred individuals of an identified species were found in the stomach of a Baltimore oriole. This is only an instance of how many of these creatures one bird can eat. In the yearly diet of this bird caterpillars are found to the extent of 34 per cent of the whole, that is, more than one-third of all the food eaten. There is perhaps no enemy to apple-raising more formidable than the codling moth. While in the adult state this small, insignificant creature flies at night and lies concealed by day. As a larvæ it is concealed within the apple. When full grown it crawls out of the fruit, conceals itself in some crevice, and changes to a pupa. It must be evident to every one that an insect with such habits is well protected from the attacks of birds as compared with those that feed for their whole life in the open. The time when they are most liable to be taken by birds is when they leave the apple and change to pupæ. In this state they have been found in the stomachs of 11 species. The members of the last brood of these insects to leave the apples in the fall do not at once pupate, but crawl into some secluded crevice, usually in the bark of a tree, where they weave a slight cocoon and remain until toward spring, when they change to pupæ and soon after to the adult moth. While concealed under the bark in this way they are preyed upon by woodpeckers, titmice and other tree-searching birds. A downy woodpecker killed last fall contained in its stomach 16 of these larvæ. Here is a case where, supposing half of them to be females, at least eight broods of these destructive insects were prevented from developing next year.

During the past season the writer has spent many hours watching a single orchard tree to see to what extent the birds visited it for food. The results was something of a surprise. It was found that, in an ordinary-sized pear tree, there were but a few moments during any hour of watching when there was not at least one bird searching for food, and usually several. Two families of birds, the warblers and vireos, were especially noteworthy for the assiduity with which they examined every leaf in search of caterpillars or other insects. A number of specimens of these birds were collected, and in every instance caterpillars were found in their stomachs, often accompanied by other insects and in many cases the beaks of the birds contained other caterpillars that they had gathered at the moment they were shot. The writer took his turn in searching for caterpillars and, although not as successful as the birds, he found them, and also found many leaves upon which these insects had fed, but on which they fed no more. In fact it seems surprising, after seeing how much the birds actually do in the way of destroying caterpillars, that any are left to perpetuate the species.

When fruit-raising was first undertaken in California the orchards were so devastated by certain birds that preyed upon the fruit, that for a time it seemed that the whole industry was threatened with failure. The bird most concerned in these depredations is the California linnet or redhead (*Carpodacus mexicanus frontalis*), a small bird of the sparrow family (*Frigillidæ*) but very abundant. More than 1,000 stomachs of these birds have been collected and their contents carefully examined, analyzed, and tabulated. The result shows that only about ten per cent of the annual food of this bird consists of fruit, and in the month in which it eats the most the amount only rises to 27 per cent of the whole food. Here is a case where the whole fruit industry of a great State is threatened by the ravages of a bird whose yearly diet contains only ten per cent of fruit. In view of this fact, let us for a moment consider what effect must be exerted upon the insect population of the country by birds whose whole diet consists of insects—and there are a number of such species—or even by those whose food consists of 75, 50, or even 25 per cent of insects. The case of the linnet teaches us that it is not necessary for each individual bird to eat a large amount of any particular food in order to largely affect the available supply. From this we may learn that the birds whose daily food contains only ten per cent of any particular element, as scales for instance, may be doing a great work in reducing the numbers of these pests. We can not see what the conditions would be with the birds eliminated, but by a comparison of the facts which we have learned, we may be able to get some ideas of the state of affairs that would ensue. That the birds are one of the greatest, if not the very greatest, check upon the increase of insects in general is a fact which the investigation of the past fifteen years has indisputably established.

REPORT OF COMMITTEE ON STONE FRUITS.

DR. E. P. MAGRUDER, *Glendale.*

Since the writer's rather lengthy paper on "Stone Fruits," reported in the year-book of the Society for 1904—to which he would refer those interested in this subject—he has been unable, personally or through the U. S. Department of Agriculture, to gather any additional facts of practical value. A year hence, however, we may look for some extraordinary results from cross-pollination in the hands of the great Burbank. Conspicuous among these will be the perfected "plum-cot"—a cross between the plum and the apricot.

REPORT OF COMMITTEE ON VINEYARDS.

J. SPENCER LAPHAM, *Goldsboro.*

Sixteen years ago, in 1889-90, there was a considerable acreage in vineyards near Smyrna, Delaware, and this locality was, probably, the only place on the Eastern Shore of Maryland and Delaware where any considerable effort had been made to grow grapes commercially.

These vineyards were at the time absolutely out of control. Black rot, mildew, antracnose, and several other diseases made it absolutely impossible to grow any good grapes. The only exception at the time being a few vines which were trained on walls or the side of buildings which were in certain measure exempt, but not wholly free from rot. This also applied to clusters of certain of the stronger growing kinds covered with paper bags.

But, on the whole, the growing of grapes did not pay; in fact, it was a losing venture, and probably one-half of the vineyards in the Delaware section were pulled up that winter.

In the Spring of 1890 nearly all the tree fruits, except a few apples, were killed all over the East by frosts, and a few farmers, having very little else to do, tried spraying their vineyards with the then new Bordeaux Mixture.

While the results which they obtained do not look to-day as surprising as they did then, they marked a very great change in vineyarding.

The sprayed Delaware vineyards gave a splendid crop, and prices boomed accordingly. Champions started at seventy-five cents to one dollar per eight-pound basket. Moore's Early and Concords sold steadily at one dollar. Agawam and Salem were standards at one dollar and fifty cents. Niagaras brought two dollars. Growers got all the way from four hundred to seven hundred and fifty dollars, net, per acre.

But these splendid results did not produce a boom in grape culture. There was not much increase in planting for several years. The rather crude spraying machinery of the time and very lively doubts on the part of certain growers as to whether the spraying really did it, made nearly every one go slow.

But since and including 1890, these Delaware people have grown and harvested seventeen crops running.

Sometimes an individual grower has been hurt some by rosebugs, but this damage is almost entirely confined to the Moore's Early variety.

In other cases, black rot has damaged some grower, but in every case this can be traced to that grower's neglect to spray.

Prices have come down in recent years to about the York State level.

Very few climax baskets are used now. A crate, or carrier, holding eight baskets, about three pounds each, is the favorite package.

The Delaware people have cheap freight service to Philadelphia by boat, and have a sufficient quantity to load in car-lots for other points.

The acreage there has been increased in recent years almost to the point of filling the demand.

While I, personally, have had quite a little experience in grape-growing, and am in the fruit business, I have never thought it would be practical from a business point of view to grow them in Caroline county. I do not believe it would be any trouble to produce the fruit of good quality, but to market it successfully in a wholesale way would be another question.

I am expressing this as my opinion about conditions in the Eastern Shore counties of Maryland, but I see no reason why it should not apply to the Western also.

Grapes are produced so cheaply in the regular grape-growing sections that every economy in the way of wholesale purchases of packages, minimum freights, etc., must be secured to make a profit from them.

Grapes from the Northern sections have sold fairly well in the markets the past season.

Quite recently in New York I saw one commission house handling exclusively the output of a large Cayuga Lake shipper. This shipper buys the grapes of the farmers, keeps them in some sort of storage, ships only the good stock, selling the inferior in bulk for wine.

So uniform and even was his output that the receivers sold the goods to arrive, wiring just before what they wanted, or, rather, what their orders called for from day to day.

A Chicago commission merchant told me a rather interesting story of the conditions which prevailed there the past season. The trade were buying the grapes of the Western New York associations at a uniform price of eighteen cents a basket, f. o. b. Chicago. A certain coterie of Italians sent a representative to Western New York to buy grapes, also. The New York State people sold this party grapes for eighteen cents, also f. o. b. Chicago. The Italians divided the cars up as fast as they came and retailed the grapes for twenty cents on the street and from the hucksters' wagons. This upset the market and compelled the wholesalers to sell the bulk of their grapes at cost or even in some cases for less.

Naturally, those houses which were at great expense in maintaining large establishments dropped out as buyers; in short, the whole trade stopped buying, and the Italians dropping out also, waited for the consignments which surely came.

These conditions brought about a twelve or fifteen-cent market, with freight and commission to be deducted—a state of affairs which my friend, the commission merchant, told me would not have occurred had the association's output been handled wisely.

I have very little to say about new varieties of grapes, for I know very little of what has been going on in the way of improvements in this fruit for the past ten years.

In fact, I fear that the larger part of my paper on this subject is more a matter of ancient history than of present interest.

REPORT OF COMMITTEE ON FLOWERS.

GEORGE MORRISON, *Baltimore.*

The prosperity of the florist is self-evident. The older establishments are increasing in size, and many new green-house structures are being erected at various points throughout the State. There is still room for further development. Many cut flowers, especially roses and orchids, and large quantities of potted plants, are annually brought from neighboring States.

A greater variety of flowers might advantageously be placed upon the market. There is also a demand for outdoor flowering plants, especially in the herbaceous order, both for cut flowers, and the ornamentation of home grounds, which fact the florists will undoubtedly keep in mind. The dahlia and the pansy are receiving their due share of attention. There is an apparent lack of interest in floriculture, both in the city and in the country. Few attempts are made by the country folk to beautify the home surroundings; the same may be said of the city people. True, the city people have but little to cultivate, but I note that when they do have it is poorly taken advantage of. You will frequently see small flower beds in which are huddled together a dozen or more varieties of plants, where one variety would suffice. Small exotic plants in large tubs, and other receptacles, out of all proportion, and usually placed about the garden plot, where they ought not to be.

It does not necessarily mean that the country dweller with so much land at his disposal has to expend large sums of money in order to beautify his surroundings. A few groups of evergreens, and deciduous trees, some flowing shrubs, advantageously placed, is inexpensive, but will add much to the attractiveness of the country home. I have noticed that the Western people put forth more effort in producing beautiful lawns, and gardens, than do our Eastern people. In Colorado Springs and Denver this is especially noticeable, where they have to irrigate in order to provide what I speak of. I find also that the average public would rather spend 25 cents on anything, in preference to a floral exhibition. In Scotland and England there is seldom a horticultural exhibition that is not crowned with success, both as regards the exhibits and the attendance. Prof. Duckham, in his address before the Chrysanthemum Society of America, at Chicago, the other week, says of the Edinburgh show: "I must confess I was completely overwhelmed by it, both by the magnificent blooms shown and the attendance, over 70,000 paid admissions in three days. That means more than money." It behooves the horticulturists of this State to see that things are changed in Maryland. This can only be accomplished by the education of the people, the older folks, by example and exhibitions, the younger through the medium of the schools and school gardens.

The more a person knows of a given subject, the greater the interest, and as the city person, and in fact the country folks, become familiar with the fundamental principles of plant life, and not content then, will they try their hand at floriculture, and frequent floral exhibitions? It might be worth while for some horticultural organization to offer prizes for city gardens, window boxes, etc. This in itself will create some interest and rivalry among the people.

No doubt a permanent State Horticultural Hall, where the resources of the State could be displayed, would have an educational value, besides being of a financial benefit to the State at large.

The value of the experiment stations are manifestly evident to the florist. Much has been done by them in connection with plant foods, diseases, insecticides, and fungicides. Something might be done, however, in producing a cheaper insecticide for green-house purposes; at present they are expensive and often ineffective. The florist has neither time nor money to spend in exhaustive experiments, and few the qualifications.

REPORT OF COMMITTEE ON ENTOMOLOGY.

Insect Notes of the Year.

A. B. Gahan and Geo. P. Weldon, *College Park.*

If one may judge from the number of inquiries and requests received, the past season has been rather an off year in the matter of insect injuries. Very few pests have been conspicuously active, except in very limited localities. The reason for this scarcity of insect pests is probably due in part to the character of the past winter, which was in general exceedingly mild, encouraging the wintering-over individuals to become more or less active, so that they were killed when the weather did become cold. Likewise the almost continuous rain and wet weather of the summer washed many young insects from the plants besides furnishing ideal conditions for the development of parasitic fungous diseases. Several instances were observed of effective work done by fungi in keeping down injury by insects.

Notwithstanding the fact, however, that serious outbreaks have not been numerous the past year, several facts of an entomological nature developed that may prove of interest. One of more than passing interest was the appearance in Washington county, near Mapleville, of a numerous brood of seventeen-year locusts or cicadas. These belonged to Marlatt's Brood No. 8, and their appearance was foretold by Prof. Quaintance in Bulletin 87, of the Maryland Experiment Station, issued in 1902. Luckily the brood is not widely distributed in this State, being confined wholly to Washington county, in the vicinity of Mapleville, and while doing some damage there, did not cause any great loss.

On August 13th, a rather unusual injury came to light in a letter received from H. Weber & Sons, stating that a bed of cauliflower was being destroyed by slugs. Later another complaint was received of similar injury to plants in her green-house from Mrs. W. C. Stouffer, of New Windsor, Md. The occurrence of this pest in green-houses is not uncommon where the houses are so located or built as to be continually damp, but instances are rare of the injuring of outside plants extensively. Several species occur, but the one probably responsible in both instances cited was *Limax maximus*, which is a common one in Maryland, and may often be seen in the late summer and fall crawling across walks or paths.

The animal, for it is not an insect, is closely related to the snail, being frequently referred to as a snail, but it does not have a shell. It is a shiny, repulsive-looking creature from three to four inches long and about a half inch in thickness when full grown, spotted or striped above, flat and whitish below with two contractile feelers or horns on the front of the head, and just back of the head on the dorsal side is a plate or mantle of slightly different texture from the rest of the body, though resembling it in appearance, which corresponds to the shell of the snail. It is very slow of motion and leaves upon everything across which it crawls a glistening trail of slime. It is nocturnal in its habits, hiding under benches and boards or in cracks of the walls of green-houses and under any kind of rubbish outside during the day and crawling out at night to feed. On account of this habit, people are often puzzled to know what is causing the injury to their plants. The tell-tale trail of glistening slime which marks its path, however, makes its detection easy.

Advantage may be taken of the slimy, mucous covering of the body for controlling the slugs, as it is impossible for them to crawl through anything like a dry powder without becoming coated with it. Tobacco dust, wood ashes, lime, soot or sulphur coming in contact with the body will prove fatal, as it causes an irritation which the slugs try to get rid of by copious secretions of mucous, completely exhausting themselves if the irritation continues. This mucous dries and hardens quickly, holding the slug prisoner until it dies. Covering the floors of the green-house with a coating of any of the above-mentioned materials should get rid of them. In gardens it is somewhat harder to control, but if air-slaked lime be sprinkled plentifully about the plants or where possible, a dry dust mulch be maintained in the gardens, there will be but little damage to the plants from slugs.

CODLING MOTH (*Carpocapsa pomonella*).—This insect, which is so destructive to the apple industry, needs no introduction to the fruit-growers of Maryland.

It is a fact, however, that every year hundreds of bushels of apples are rendered practically worthless owing to the attack of this little pest, and yet the average Maryland orchardist does nothing to lessen its ravages. A few may excuse themselves through ignorance of successful methods of combating same, but the majority must know how this has been done for years past. The insect is not a new one. Volumes have been written upon it, and its life history thoroughly worked out time and again. As a result, means have been devised whereby a large percentage of the fruit may be marketed in a sound condition.

The most important factor in keeping the codling moth in check is the application of arsenical poisons in the form of a spray. Paris green and arsenic of lead may be given as two of the best, with a probable advantage in favor of the latter. This advantage is due first to the extreme insolubility of the arsenic of lead, which fact enables the use of it with little or no danger of injuring the foliage, and, secondly, its adhesive qualities cause it to adhere to the calyx lobes much longer than does a spray of Paris green. The following proportions are most generally used:

Paris Green Spray—One pound of Paris green to 150 gallons of water.

Arsenate of Lead Spray—Eight pounds of arsenate of lead to 100 gallons of water.

If the Paris green spray is used it is well to add a couple of pounds of freshly-slaked lime, which lessens materially the danger of burning the foliage. A good plan is to put the Bordeaux mixture in the barrel with either of these spray solutions and thus they will serve a double purpose of insecticide and fungicide.

The spray should never be applied until the blossoms fall, but always soon after they fall, and before the calyx lobes close. This is the time for the first application. A second should be made in about ten days.

Either of these sprays, if applied with care, will mean an immense saving to growers of apples or pears.

CUTWORMS.—Seldom a year passes by without more or less injury from cutworms. The past season brought complaints from several localities where the pests occurred in sufficient numbers to do much harm. The most interesting one was from the Franklin Davis Nursery Company of injury to freshly-starting peach buds in the nursery by a climbing species. Considerable damage was done. Another report came from Hyattsville, Prince George's county, of the complete defoliating of two or three small shade trees.

The climbing cutworms are the larval form of what are commonly known as owlet moths. The family is a large one, and many familiar examples may be seen in the moths which enter our houses on summer evenings, being attracted there by the lights. If the worms contented themselves with simply eating the leaves as they go there would not be any great amount of damage from them. Instead, however, they eat only a small portion of the stem allowing the remainder of the leaf to drop to the ground.

The insects climb the trees at night, returning to the ground at daybreak, and on account of this habit of doing their work at night owners of trees and plants are often puzzled to know what is causing the injury. Trees growing in light loamy soil are more liable to attack than those in stiff clay.

Orchards or shade trees may be banded with cotton batting, the bands being about six inches wide and tied only around the lower edge so that it may be folded down over the string, and thus the worms will be effectually prevented from going up the trunks. It is claimed also that orchards seeded to grass are less liable to injury from climbing cutworms, probably because the worms find plenty of food in the grass. Both of these preventives, however, are impracticable for the nurseryman. His only recourse must be clean culture to discourage egg-laying by the moths, they preferring to deposit their eggs among weeds. If in spite of this crops are injured by them, poison baits may be used, and this, it may be said, is the best method of all. The worms may be easily poisoned by scattering about the infested places a mixture of bran and Paris green moistened and sweetened with molasses.

THE PEACH SCALE (*Eulacnium nigro-fasciatum*).—Besides the San José scale, oyster-shell scale and the scurfy scale, all of which are more or less familiar to the orchardists of the State, another known as the peach lecanium or terrapin scale from a real or fancied resemblance to that reptile seems to be developing into quite a serious pest. A number of complaints of serious injury by it were received from different parts of the State. An orchard of peach trees near Boonsboro, Washington county, was found to be very badly infested, one hundred trees being already dead or fast approaching that condition because of it. Mr. Joseph Barkdale, of Ringgold, Washington county, reports: "We have something in our orchard that is giving us much more trouble than the San José scale. I think it is what is called the turtle scale. Lime, sulphur and salt doesn't seem to affect it. Eight years ago we took every tree out of that orchard and four years later replanted it, but a neighbor alongside had the same thing and it is back again as bad as ever. As soon as we can get at it, we intend to take out three-fourths of the orchard."

In 1905 a plum tree at the experiment station was discovered to be quite badly infested with this scale. For purposes of study and observation it was left untreated. This study brought out the following facts.

The full grown scale is a hemispherical object about the size and shape of half a small pea, nearly black and rather soft in texture. It passes the winter as an immature female, finishing its growth in the spring and depositing eggs under the old scale. These are generally found attached to the undersides of twigs and branches. The eggs begin hatching about June 1, and from that time until the first of August young crawling scale will be found on the trees on every warm sunshiny day. The majority of the young first make their way to the leaves and settle there along the mid-rib and veins. They spend from six to eight weeks here and then the males emerge as winged insects, while the females migrate back to the twigs and branches, where they settle again and go into winter quarters. While on the leaves the scale is quite small, greenish white in color, elliptical in outline and almost flat. After settling on the twig they gradually become more and more convex and darker in color, finally when full-grown assuming the appearance already described. Fortunately only one generation occurs in a season. The females seem to be remarkably prolific as will be seen by the long breeding period extending over more than two months. During the months of June and July of the past summer the trees at the experiment station were literally yellow with the young crawling scale on every warm day. On cloudy, damp days very few were to be seen crawling. They spread from the original trees over four or five adjoining trees, and had it not been for the intervention of a very effectual parasite in the shape of a fungous disease would no doubt have spread further.

As it was, however, the fungus did such good work as almost to rid all trees of scale even to the ones originally infested. The fungus is probably *Cordyceps clavulata* and at least in damp seasons will undoubtedly keep the pest in check. It attacks the half mature insects both while on the leaves and the twigs. It is generally first noticed as a white woolly-looking ring around the edge of the scale, but later spreads all over it making a pure white blotch on the leaf or twig beneath which the scale is buried.

It is probable that the lime-sulfur spray will not prove entirely efficient as a treatment for this insect unless it is applied late enough in the Spring to be still present on the trees when the eggs begin to

PLATE I.

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hatch in June. The wintering-over form is too securely protected to be affected much by it. There can be no doubt however that it will be possible to control it by spraying with any good contact insecticide like kerosene emulsion that can be applied to the trees in summer during the period when the scale are crawling; *i. e.*, during June and July. It will be necessary to spray several times however owing to the long continued production of young by the females.

THE WHEAT LOUSE (*Nectarophora avenæ Fab.*).—There are times when the wheat crop is extensively injured by the wheat-louse or grain-aphis. The past season a great deal of damage was done by this little pest throughout portions of the Southern Maryland counties.

Ordinarily the grain-aphis is kept in check by its natural enemies. Certain seasons, however, conditions are especially favorable to its development, and probably more or less unfavorable to the development of its myriads of parasitic enemies, consequently the wheat grower suffers from its attack.

As a rule the farmer must depend largely upon the aforementioned enemies to combat this insect for him. Though contact insecticides might result in some good, this method would be too expensive to be practical.

Cultural methods are also unsatisfactory owing to the fact that the lice breed on so many different species of the grass family.

REPORT OF COMMITTEE ON PLANT PATHOLOGY.

How to Get Information About Plant Diseases.

PROF. J. B. S. NORTON, *College Park.*

In addressing you as chairman of this committee, I thought it worth while to talk on how to get information about plant diseases, since knowledge of the subject in the minds of most people is somewhat obscure, though there are good reasons for this state of mind. In case of insect troubles one can see the "bug" on the foliage, or can, at least, see the very definite mark of his "teeth" in many cases. But when spots come on the leaves without visible cause, or plants wither and die when there is no drouth condition, the uninstructed observer is at a loss to understand it. Then, again, as compared with the knowledge of human diseases, we have hundreds of different kinds of plants attacked by thousands of different kinds of fungi and bacteria to study and classify, as against the one human organism and its comparatively few parasites. Again, the study of plant diseases is a rather new one, and the knowledge gained is not yet complete or well systematized as a whole, although some of the most common and injurious diseases have been well investigated and excellent methods of control devised. There is no complete treatise or textbook on the plant diseases of this country that one could keep as a handbook for reference and consultation. We must gather our information from many sources and put it together for ourselves, or depend on the somewhat brief and condensed manuals issued from the experiment stations, in spray calendars, etc. These are very good, but are not general works that could be used outside of the state for which they are prepared.

There are two kinds of people in search of knowledge on this subject, and the methods used in getting it and the character of knowledge to be gained depend upon that: First, information for the use of farmers—I mean farmers in the broad sense, including the growers of field crops; the horticulturist, whether he be orchardist, gardener or florist, and the forester as well; and, second, information for the instruction of the special student of pathology.

I will devote a little time to the second of these first before going on to what will be of most interest to you. The minute size of the parasites causing many plant diseases and the obscure way in which many diseases operate makes necessary the specially equipped laboratory where these things can be studied, and the training of specialists with sufficient experience and skill to determine the causes, and study out the courses of plant diseases as necessary and rational antecedents to successful treatment. Carefully controlled and extensive experiments in treatment must also follow as a necessary means of saving much financial loss in which the farmer would be involved if he had to alone bear the expense of such experiment.

Then we have another class of special students, the teachers, and I use this word in an extensive sense also, whether they be professors in universities and colleges, common-school teachers, lecturers in farmers' institutes and granges, or writers in agricultural books and papers—just so they are giving instruction. The teacher may be, and should be to some extent, also an investigator, and should put to practical test as much as possible the knowledge he gains. But he must depend largely upon the work of others for what he teaches

PLATE IV.

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assimilating and digesting it for the special uses of his own disciples; for it is not possible that one could study thoroughly more than a comparatively small number of plant diseases with the limited time and energy allotted to man.

But how is the farmer to learn? He must depend to a great extent upon the special investigator and the teacher. But first-hand information, provided always it is real truth, is of most value to any one, and I would be the last one to advise farmers to blindly follow the advice of any investigator or teacher of new agricultural practice, no difference what book, or Government department, or experiment station he may represent. After securing a groundwork of knowledge of plant diseases in the ways which I shall presently mention, I would say to every farmer, get out in your own fields and keep them watched; study them and keep on the lookout for unfavorable conditions; watch the course of all the well-marked diseases and determine the conditions under which they appear. Work out the problems of control for yourself. A good rule in this, as in anything else, is to get all the advice you can from every available source, and then do what *you* think is best.

Now some cautions before you begin work in your farm laboratory: Don't jump at conclusions; don't assume things; don't condemn the scientists if what you see does not agree with their tally. You may both be wrong. Biological sciences are not exact sciences, and you can't make a strong, declaratory statement and be sure it is right like you can in mathematics or politics. To get true results we must carefully "try-try again," and again, and then take a middle ground of what the variant results show.

Drawing general conclusions from few or even single experiences I have found to be the most conspicuous fault of the average farmer, and yet they call him "practical" and use "scientific" as the opposite. The most successful farmers I have known were usually the most scientific in their methods, using the word in its true sense; and the average farmer is the most unpractical of men. I am talking about farmers, recollect that; I am making no defence of the so-called scientists. I know a few farmers who still look to the moon as an agricultural guide; though, thank goodness, most of that kind are dead or at least buried. But there are a great many more apparently sensible ones that assume just as irrationally that most of the blights, rusts, molds, rots, etc., are due to weather conditions. I grant they are caused by suitable weather as much as weedy corn is caused by wet weather, but weed seeds also are necessary to the production of weeds. Others assume that their crops are doing as well as could be expected because they do as well as usual, when, as a matter of fact, the average crop is only one-half what it might be owing to the loss from preventable diseases.

Next, after keeping a sensible watch over his crops and looking out for their health conditions for his own instruction, as well as profit, I would urge the farmer to keep up with the times in this as well as other subjects. Never mind the good old times when you were a boy or your father was a boy. They were fine old times, and worthy of the dearest place in our memory; but they are dead times, and if we try to stick to them we will soon be just as dead. I know one can enjoy sleeping finely, and it is so easy to just let the world move on and on while we dream. But who would be willing to spend his whole life in bed? Yet that is what a great many of your neighbors are doing, mentally. That is the reason they are not here.

I say, then, keep up with the times and keep awake; by attending your Horticultural Society meetings; by reading the report when it comes; by going to Grange and Farmers' Institute meetings; by visiting other successful horticulturists and studying their methods; by keeping in communication with your State Experiment Station and Agricultural College. If you want information on any question about plant diseases write to the State Pathologist—you can at least discover how little he knows.

Then there is a great field for keeping up in the latest pathological knowledge by having at hand and reading the best and latest that is published. There is a great amount of good material, though, as I said, there is no good complete text book written for this country. I am going to mention some of the best publications in closing and tell you where you can find references to others:

The Annual Report of the Connecticut Experiment Station for 1900 gives references to the principal publications on all the common plant diseases of the United States caused by parasites.

In the Seventeenth Annual Report of the Hatch Experiment Station (Amherst, Mass.) is a list of the publications on diseases not caused by parasites.

The Index to the Experiment Station Record published by the United States Department of Agriculture gives references to the monthly abstracts of most of the important literature of the world, from 1889 to 1901, on agricultural topics, including plant diseases.

In the Appendix to the Year Book, United States Department of Agriculture, each year is given a summary of the knowledge of plant diseases of the United States for the year; their distribution, effect, and methods of treatment.

There are several good hand books on plant diseases published in foreign countries; two, in English, which I will mention are Massee's "Textbook of Plant Diseases" and Ward's "Disease in Plants."

Lodeman's "Spraying of Plants" is an excellent work on that subject, and also gives symptoms and treatment of most of the important plant diseases of this country, as well as the insects. It was published in 1897, and knowledge in that line has progressed much in the last ten years.

Several of the State experiment stations have published excellent manuals giving descriptions of the diseases important to their State and treatment for the same. One of the most beautifully got up is issued by the Botanical Survey of Minnesota. Others are: Ohio Experiment Station Bulletin 21; the Annual Reports of the Experiment Station Botanists of Connecticut and New Jersey, and the Annual Reports of this Committee, and Bulletin 65 of Maryland Experiment Station for our own State (the latter is out of print, but a new and more complete manual is in preparation).

An excellent brief guide for treating fruits with fungicides is Farmers' Bulletin 243, United States Department of Agriculture.

Nearly all the Farmers' Bulletins, United States Department of Agriculture, treating of special crops give some space to the diseases of that crop; and Professor Bailey's Cyclopedia of American Horticulture, a work above all others that every horticulturist should possess, also considers the commonest diseases.

Every farmer should take the agricultural paper best suited to his special line of farming, and most of these give, especially in the columns devoted to answers to inquiries, the latest information on plant diseases, spraying, etc.

REPORT OF COMMITTEE ON NOMENCLATURE.

PROF. W. N. IRWIN, *Washington, D. C.*

The new rules of the American Pomological Society, as set forth in Bulletin No. 56 of the Bureau of Plant Industry of the U. S. Department of Agriculture, giving the correct nomenclature of the known varieties referred to in American publications from 1804 to 1904, is the most complete work that has ever been published on the subject. With a copy of this work before him, no one need err in the naming, cataloguing or labeling of a new variety. This work should be in the library of every nurseryman and fruit-grower. It may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C.

In this Bulletin, Maryland is accredited as the place of origin of the following varieties of apples, viz.: Aunt Susan, Baltimore, Black Tom, Bloomfield, Caltine (Winter Grixon), Clarke Delaware, Cross, Donahoe, Excelsior, Gordon Cluster, Hopkins, Kerr, McNash, Maryland Maid, Pattie Grimes, Red Pippin, Shepherd Keeper, Shipley, Sisk, Spalding, Victoria, Wells; twenty-two in number.

The following may also be of Maryland origin, but there is some question about it: Brown (Nottingham), Delaware Bottom, Lady Finger, Lankford and Thomas; five in number. Doubtless, there are more valuable kinds that have not found their way into print.

Peaches, plums, strawberries and other fruits of merit have originated within her borders.

If those interested in horticulture will be on the lookout for valuable old or new kinds and bring them to the notice of their State Society, together with as complete a history of them as they may be able to secure, they will confer a benefit on the public.

During my residence in Washington, I have been deeply interested in the study of varieties brought to our market, and particularly so in the varieties grown near by. Occasionally a few of the old favorites are found. These sell quickly and at much better prices than poorer kinds, so that one would think more attention would be given that class of fruit. Upon inquiry of the sellers, most of these are reported as good growers and regular bearers. The only apparent reason for the neglect of these fine varieties is that in the rush for something new, in the twentieth century class, we lose track of and, finally, forget our more valuable kinds.

I believe that the best varieties are none too good for those who are willing to pay full value for excellence and that when the public finds that certain growers produce fruit of high grade in quality will tax their producing capacity to its limit. For this reason, I would suggest that growers adjacent to the good markets of Baltimore and Washington should, at least, consider some of the following varieties, many of them excellent for all purposes, some of them fine for cooking.

Alabama, American Beauty (not Sterling), Bailey Sweet, Benham, Benoni, Blenheim, Bloomfield, Bonum, Bostick, Brown, Buckingham, Catline, Celestia, Coffman, Cornell, Doctor, Dyer, Early Cooper, Early Edward, Early Joe, Fall Swaar, Fall Wine, Fanny, Glowing Coal, Grand Sultan (short, thick stem, a week later than Yellow Transparent), Grosh, Jackson (Del.), Jefferis, Jersey Sweet, Juicy Bite, Kirkbridge, Late Strawberry, Louise, McIntosh, McNash, Magnet, Mangum, Martin, Melon, Mexico, Milam, Morven, Mother, Muster, Ogleby, Okolona, Peter, Poorhouse, Porter, Primate, Rambo, Rolfe, Roman Stem, Spalding, Summer Extra, Summer Pearmain, Summer Rambo, Summer Rose, Tart Bough, Terry, Townsend, Williams, Wine, Winter Smokehouse, Yellow Summer Pearmain.

I would further suggest that producers of fine fruit would stimulate the demand for their products by having a neat card on which may be stated the kinds of fruit they are growing, with their address, 'phone number, etc.

Maryland, with her diversified soils, and elevations ranging from tidewater to mountain top, should become a leader in the production of choice fruits.

REPORT OF COMMITTEE ON STORING, PACKING AND MARKETING.

W. F. ALLEN, *Salisbury.*

I see from the program I am chairman of a Standing Committee on Storing, Packing and Marketing. The program does not say whether fruits or vegetables, so I presume either is intended. For reasons which it is not necessary to explain here I have not prepared any report. I will rather make a few off-hand remarks, and as I have no special line of thought, I will answer any questions that come up if I can. If I cannot, I will say so.

With perishable products I have had no experience in storing, with the exception of one, that is sweet potatoes. Probably some of the audience know more about that than I do. But I will give my experience. Two years ago I built my house for storing potatoes. The basement is constructed of brick and the second and third stories are frame, ceiled inside and tongue-and-groove flooring, ceiled outside, covered with building paper, that covered with rabbetted sheathing. The roof is put on with flooring, building paper and shingles, with a good big ventilator in the top. This house was completed very late and I was late getting my first crop in. It was in, in fact, before the builders were done work. I built my fire and kept the heat to 65 degrees to 75 degrees for about three weeks, and then let it go down to about 50 degrees. The result was perfectly satisfactory. This season, so far, they have kept very nicely under the same treatment.

As to packing, that depends upon what your market requires. With sweet potatoes, some prefer baskets, others in barrels. Some markets want the cloth top barrel, others the double head. In packing potatoes, or any other crop, I would advise packing them as your market requires.

For strawberries, I have been using 48-quart crates for several years. I have my crates built a little higher—one inch higher—than the standard. I have this inch added in the thickness of the sticks on the slats, which enables me to fill up the quarts a little fuller. And I think it pays to do it. I use four trays, where it is the custom to use only three. I put the extra one on top. I find it a great help and all the markets to which I have shipped have spoken of it very favorably. They say it prevents too much shaking in the top layers, as without this the top layer is generally the worst looking one in the crate when you open it. Strawberries, dewberries, cucumbers, cantaloupes and watermelons are my principal crops. Peaches will be one of my crops in the future if I succeed in growing them.

Cucumbers we pack in half-barrel baskets. I was advised by the commission men to whom I was shipping two or three years ago to use the Southern cucumber basket, but after giving both an extensive trial I prefer the half-barrel basket. It holds a third more and sells for a third more. In picking cucumbers for market I think most people make the mistake of letting them get too large. For two years I have succeeded in getting, most of the time, about double the market quotations for cucumbers. I grow a variety known as Peninsular Prize. It is a white-spine cucumber, greener than the Arlington, is about medium in length when they are ready for shipping, which I think is about when 1½ inches in diameter, not over 2 inches at the outside, the cucumber should be about 6 to 8 inches long. The market will pay more for that size. My market is New York.

However, with any crop you want to find out the requirements of your market and pack as your market wants it.

Cantaloupes I have been packing in 24's for several years. I cannot say it is any better than if they were packed in 45's. That is, ordinarily. But I ship a great many to Boston and my receiver in Boston sticks to the 24's, while I think I lose by it in New York. I think I would really be a little better off in the New York market with the standard crate, but the Boston trade pays me best on the 24's. I notice some of the Colorado growers are shipping in what they call "flats," that is, one layer of 15 cantaloupes. But, as I said before, find out the requirements of your market and pack as your market wants it.

The packing of watermelons is very simple. You want to assort them well. I believe it would pay to make three assortments unless they run very uniform. The past season the larger size we picked out averaged 40 pounds each. Those we sold in Boston and Providence at 30 to 35 cents apiece. The smaller size were shipped to a different market. Some of the markets will do better on the smaller size than the larger ones will.

DISCUSSION.

Q. What varieties of watermelons do you use?

A. "Success."

Q. How do you take the potatoes from the field?

A. I pick them up in strawberry crates and do just as little handling as possible.

Q. What temperature do you have your room during the winter for storing potatoes?

A. About 50 degrees, as near 50 degrees as I can get it, from 50 to 60 degrees; about 75 degrees when you first put them in.

Q. Do you believe the greatest enemy to the growth of potatoes is lack of industry?

A. I believe in keeping the field in a healthy growing condition, whatever that means.

Q. What do you recommend as a fair yield of first-class watermelons per acre?

A. I think that ordinarily we ought to get one car of strictly first-class melons to two acres. I think that would be a fair average.

Q. How many in a car?

A. The past season my first picking averaged 1,050 to a car of 30,000 pounds; our second picking about 1,200, and two cars of "culls" which we selected out of fifteen cars, averaged about 1,400.

Q. What will sweet potatoes yield to the acre?

A. There is such a wide variation. I should think 300 or 400 bushels.

Q. What kind of fertilizer do you use for sweet potatoes?

A. Several different kinds. We use whatever we have left from the other crops. Wood ashes is one. It will do as well as any.

Q. Do you plant your potatoes in hills or level cultivation?

A. Level cultivation.

Q. What varieties do you grow?

A. This season, "Big Stem Jersey," "Yellow Nansen," "Goldskin," "Cedarville," and "Red Nansen." I find the Goldskin are a little harder to keep than the other varieties.

Q. What kind of potato diggers do you use?

A. The best potato digger I have ever found is the No. 19 Oliver Chilled Plow with rolling coulter ahead, set to one side so it will not run over the hills and cut the potatoes at the top.

Q. Do you plant by hand or machine?

A. By hand.

PRESIDENT'S ANNUAL ADDRESS.

E. P. Cohill, *Hancock.*

Ladies and Gentlemen:

It is a great pleasure to be permitted to address this Society, whose two or three thousand enrolled members distributed throughout the whole of this grand old Commonwealth of Maryland, representing, as you do, the bone and sinew of our civilization, the substantial, conservative producers who have not the money to buy votes, nor the votes for sale. We do not become millionaires by tilling the soil, nor do you degenerate into anarchists. The farmers, fruit-growers, truckers and florists—cultivators of God's acres—what a power for good! We respect the rights of others.

The purpose of this Society is to promote and protect the horticultural interests of our State. Maryland is exceptionally situated for fruit, vegetable and floral culture; located as we are, in the centre of industrial America, railroad, express and water shipping facilities unsurpassed, with two trans-continental railroad systems right at our doors, we can put our products on cars in the evening; the next morning they are ready for market in New York, Boston, Pittsburg, Buffalo, or Wheeling.

The Eastern Shore of Maryland has from early days been renowned for her fruits, berries, etc. The delicious peaches and cantaloupes of the Blue Ridge section of western Maryland have been successfully cultivated for years and are widely known. Our friend, Professor Beach, tells us that the York Imperial Apple originated in Pennsylvania; the Grimes Golden, the standard of apples, originated in West Virginia, but nowhere do these two varieties of apples come to greater perfection than in the mountains of western Maryland. God has given us the elevation, with air circulation, a rich, deep, limestone soil, the subsoil containing an abundance of potash and iron, producing an ideal tree, with fruit of good size, bright color and superior quality.

In this delightful section of our State, I believe that apple trees can be trained to grow good crops each year after the fifth year, where varieties are mixed in planting; by cultivation, fertilization and thinning.

The question of labor in the orchard, truck patch and farm is receiving much attention just at this time. For the orchard we find the best men are the intelligent young married Americans; provide them comfortable dwellings located on public roads, with good water, garden, nice front yard, convenient outbuildings, telephone, with rural mail delivery, and in the near future their children carried to school in free rural school wagons or electric cars, working ten hours per day.

They soon appreciate having good water, fresh vegetables, with fruits, poultry, nuts, etc., happy at home with their families, and a daily paper every evening.

The educated American young man wants to see results; he is not like Stephen Girard's man, "willing to carry bricks across the street and then back again"—not he! He will not do it, but he will work with a vim where he finds his employer is "on to" his job, producing results.

We have young men who left their fathers' farms early in life, attracted to the industrial centres with high wages, which they found had to be expended for a very poor living, happy to return with their little families to the land and soon start a small bank account.

Before finishing I wish to call the attention of the orchardists to the dangers ahead. Pear blight, peach yellows and San José scale are doing great damage in our State, and unless citizens in towns and cities co-operate with our State officials in combating these dangerous pests, in the near future the small farm orchards around our homes will all be destroyed.

I thank you very much for your kind attention.

REPORT OF THE STATE PATHOLOGIST.

PROF. J. B. S. NORTON, *College Park.*

The usual inspection work has been carried on by the Department both in orchards and nurseries, and nothing out of the usual routine is to be reported about the latter. No new diseases of importance have appeared as troublesome in the nursery, and nurserymen are observing proper care with regard to the common ones with which they are troubled. The definite separation of several diseases formerly grouped under the name of crown-gall, has enabled us to handle that disease more readily and with less loss to the nurseryman.

Fewer trees were examined for the yellows by the inspectors than in previous years because more effort has been made to follow up the work of the first inspection to secure eradication. Many hundreds of orchardists, more than usual, have responded to our notifications sent out after inspection, and much time has been consumed in recording and answering these. Those not heard from have been visited a second time by some of the members of our staff to ascertain whether instructions have been followed. It is a satisfaction to know that nearly all the growers visited or heard from have removed the diseased trees from their peach orchards or were then engaged in taking them out. It is hoped that the others can be induced to comply with the law before spring; but there will doubtless be a few, as usual, where force must be used. The following table shows the condition of peach with regard to yellows in the various counties where inspections were made in 1906:

County.	No. of Peach Trees Inspected.	No. of Trees Found With Yellows.	Percentage of Trees With Yellows.
Anne Arundel	29,606	0	.0
Allegany	4,749	266	5.6
Carroll	5,038	199	3.9
Calvert	95,211	0	.0
Caroline	254,231	372	0.1
Frederick	50,205	2,626	5.2
Garrett	4,865	186	3.8
Montgomery	1,584	91	5.7
Washington	158,935	8,614	5.4
Worcester	4,453	0	.0
Totals	608,877	12,354	2.0

Per cent of yellows, excluding non-affected counties and Caroline county, in most of which yellows is not found, 5.3. The inspection in Anne Arundel county was mostly in the southern part outside the yellows belt. The above figures show a very considerable increase of yellows in the State as compared with similar records of past years. It must not be supposed, however, that this shows the actual percentage occurring, as in many cases the diseased trees are removed before the inspectors visit and many cases do not show up until afterward.

In addition to the peach mentioned above, 72,556 apple, 16,443 pear, and 32,912 other trees were examined for various diseases. Pear blight was found to be very bad on both apple and pear this season. Some experiments in cutting out, disinfecting, and painting over injuries from this disease on trunk and branches of apple trees were quite successful in enabling them to overcome the injuries.

Fruit spotting fungi disfigured fruit seriously owing to excessive wet weather this summer. Other diseases, as brown-rot of peach and plum, black-rot of grape, field diseases of carnations, cantaloupe leaf-blight, etc., were more destructive for the same reason.

Asparagus rust was almost entirely absent from places where it was abundant the year before, and our sulphur dusting experiments could consequently furnish no positive results.

A destructive alfalfa disease is being investigated. Many minor investigations have been pursued which were of value in adding to our own knowledge of Maryland plant diseases and in answering inquiries made of the Department.

The usual lines of giving out information have been followed. One Bulletin, No. 108, Maryland Agricultural Experiment Station, "Irish Potato Diseases," has been issued.

Mr. E. I. Lichti, a graduate of Ohio University, has acted as assistant since August, 1906, in place of F. H. Blodgett, on leave for one year.

DISCUSSION.

Q. What causes cabbage to rot?

PROFESSOR NORTON: I can tell you what does it but not how to stop it. There have been a number of things suggested to prevent it, but nothing I can recommend yet. There have been some things recommended, but I do not believe they do much good. There is one thing that will do some good, that is, to have clean seed. The seed can be disinfected by soaking them for a short time in diluted formalin.

The President appointed the following committees:

Auditing—Messrs. Lapham and Hollingsworth.

Resolutions—Messrs. J. W. Kerr and D. H. Hargett.

Nominations—Messrs. Richard Vincent, Jr., A. L. Towson, and W. G. Dawson.

Exhibits—Messrs. Irwin, Close, Fletcher, Duckham, Herrington, and Tracy.

Meeting adjourned to 7:45 P. M.

During this intermission about 3,000 school children of Baltimore city visited the Armory to observe the exhibit.

WEDNESDAY, 7:45 P. M.

President Cohill called the meeting to order, and introduced the first speaker.

THE CARNATION.

W. H. Duckham, *Madison, N. J.*

I am happy of having an opportunity of speaking in this city, renowned the world over for its courtesy and hospitality, and yearly increasing in fame for its development of the fine arts and for its growth in the finer things of civilized life. I make no apology for including horticulture among the finest of all influences in this complex modern life of ours. This beautiful State has long been praised for its fruits—for who does not know the peaches of Maryland.? Who has not praised the Maryland oyster?—which is, I believe, considered a fruit in this region! But the State must awake to its magnificent, its unsurpassed horticultural possibilities, which are yet but partially realized.

I am asked to speak to you of the Carnation, and I am glad to do so. It is always pleasing to be on the winning side, and if any flower has made more rapid strides in popular favor, in recent years, I do not seem to recall it at this moment. It is overrunning America so rapidly that it will soon be as well known as patented breakfast foods, whose advertisers are skillful beyond words. But the American carnation has done more than that. It is off on a world-conquering mission of peace and beauty. The Germans have taken it up, and German horticultural journals are singing its praises in season and out. Our English cousins long thought that their climatic conditions were unsuitable and clung with devoted persistence to the malmaisons. They have discovered the error of their ways and with characteristic energy have gone into the growing of the American carnation. One of our big growers recently told me that he had sent last year 75,000 carnation plants to the British Isles.

This enormous delevopment is chiefly due to the great improvement of the flower by the introduction of newer and better varieties, which flow on in a changing and increasing stream. The men who perhaps have done most for this flower, in recent times, have been Dorner, Fisher, Witterstatter, and Ward, whose services must not pass without this slight mention even in a discussion so brief as this of mine. I have just spoken of the newer varieties, let me add at once the observation that the coming of new varieties is so rapid as to be almost startling. We have sarcely made up our minds to worship one belle of beauty, when a better is before us. It is really surprising to read the papers and books on Carnations and see how the varieties which they honored have disappeared. Indeed, I almost fear now to name those that I consider best, lest somebody may arise and say that a dozen new varieties better than these in my list were produced the night before last! Nevertheless, here goes for an enumeration: I consider Enchantress the finest all-around variety now in cultivation. In the first class, along with it, I should name Lawson, which has held a place surprisingly long; White Perfection, Robert Craig, Victory, and Hallowarden. The new ones to be introduced this season which seem to me most deserving of mention are Winsor, Beacon and Aristocrat. I much doubt whether any one of you can name a better selection than these, though I am free to admit that conditions differ and "one man's meat is another's poison."

We are under much obligation to the Carnation Society which sifts, judges and pronounces concerning the new varieties. It is well to have expert guidance in this matter, and the combined wisdom and knowledge of such a Society is better than the individual judgment which the best of us can bring to the task.

But I must hasten to say something of the culture of this beautiful flower. I shall not venture tô say that the method which I pursue, and am now about to describe, is the best. I have too much fear of consequences to do that. I have my method, you have yours. Let me tell you mine, you may give to it as little heed, or as much, as your judgment may decide. One thing only will I dare to say positively. *It is the detail work that counts.* Success depends on great care, great exactness in the smallest details. Here, then, is my method.

I make my propagating bed of sand, about four inches deep. The glass above it is shaded with white lead. Then in the month of January I strike my cuttings. I have found that the average time required to root them is from three to four weeks, but they vary greatly. Thus I have rooted Roosevelt in twelve days, and Hallowarden in the same time, but, in the latter case, the cutting had to be of medium size and pretty carefully chosen.

As soon as the cuttings are rooted I pot them up, and, when they are four inches long, top them off to three or four leaves. This process gives the stockiness and strength without which we cannot hope for a big winter harvest of bloom. The little plants are shifted on as necessary until a 4½-inch pot is reached, when they are ready for planting out, in the benches. Now I know very well that the usual American practice is to grow the plants on in the field. I am also aware that one of the very best growers in this country, I mean Mr. Fred. Dorner, of Lafayette, Indiana, has said that, *"summer culture under glass has been experimented with in late years, but with no generally satisfactory results. The hot, close green-house air is against it; the plants grow as green-house plants do, soft and drawn, not to be compared with the sturdy, short-jointed, hardier outdoor growth so productive of a good crop. Indoor-grown plants lack the foundation found in the field. True, the plants will not have the setback of a transplanting, but better results have to be shown before this mode of summer culture will become general."*

This is Mr. Dorner's opinion, and anything he may choose to say about Carnation culture is certainly entitled to respect. But I must disagree with him and hold strongly to the opinion that the indoor culture is in every way superior. The results that I secure in profuseness, size and quality of bloom seem to me to justify fully this contention.

Briefly, then, I proceed as follows: Very early in June I plant out, from the pots, the plants into benches into a fine loam, with a dash of leaf mold together with a liberal quantity of well-rotted manure. The plants are then sturdy, short-jointed, and have been spared the buffetings of outside weather and, especially, have escaped the setback of transplanting from the field. Each plant is well watered about the ball of earth which it brought from the pot, but the intermediate space must not be watered at all lest the whole sour. This must be guarded carefully until the roots have begun to fill the space. I set the plants 11 to 12 inches apart, and shade them if the weather is bright and hot, but not otherwise. As a little indication of the success of this method, in one particular I may add that this year I lost only two plants in the handling.

The houses must have side as well as ridge ventilation, and will need full air all through the summer. Once or twice weekly they are syringed to keep down and ward off insect attack. This ought to be done early in the morning or, at least, early enough in the day to ensure the plants being absolutely dry at nightfall. The night temperature for winter should be kept low, say 52 to 55 degrees, with a rise of 10 degrees through the day, which will give better color and a stronger stem. Use weak liquid fertilizer, very weak, and use frequently. I also strew Clay's manure lightly over the soil, with good effect.

If all these directions are followed closely and in detail the results are as certain as anything horticultural can be. If you should try them I wish you the richest and most rewarding success. With me they have succeeded quite well enough to be continued until a better way can be shown, when, of course, I shall be happy to make the change.

REPORT OF THE STATE ENTOMOLOGIST.

PROF. T. B. SYMONS, *College Park.*

The work of this Department during the past year has been conducted similarly to previous years. Nineteen hundred and six has not been marked by any special injury from injurious insects—our annual visitors have appeared and inflicted their usual injury, but no unusual outbreak of any pest has been reported.

A general discussion of those occurring and injury inflicted was given in the report of the Committee on Entomology, by Mr. A. B. Gahan and Mr. George P. Weldon, Assistant Entomologists.

It is pleasing to report a more vigorous and determined interest among horticulturists and general farmers to employ means of controlling various insect pests, and especially the upward trend of public opinion in the disgust of persons who neglect their duty, both to themselves as well as their neighbors, in allowing any pest to continue its ravages unmolested, and thereby prove a public menace in any vicinity.

The outburst of public opinion in any neighborhood, when necessary, will be beneficial; in addition, if the officers of the State Horticultural Department are notified, they will take immediate steps towards the abatement of such a menace.

The general conditions in the State are steadily improving—spraying for the control of various insects being accepted as routine work by the progressive orchardists.

The work of the Department may be more readily discussed under the following heads:

EXPERIMENTS.

One of the duties of the Entomologist as given in the law is, the conducting of experiments with different remedies for the control of insect pests. Accordingly, this division of the work has been given as much attention as our limited funds will permit. Through the courtesy of Director Patterson, additional funds from the Station have been appropriated recently, for purely investigation purposes.

In addition, some of the experiments conducted the past year have been co-operative with the United States Bureau of Entomology. The following experiments or investigations are in progress, or have been conducted during the past year:

(1) Experiments testing various spray solutions for the San José scale.

(2) Experiments in fumigation of nursery trees and buds with hydrocyanic acid gas; also testing various strengths of the gas on peach buds.

(3) Experiments in dipping nursery trees in lime, sulphur and other washes before planting.

(4) Experiments with washes for the control of the oyster-shell scale on maple trees, or other trees or shrubs.

(5) Testing different treatments, and studying the life-history of the codling moth in this State.

(6) Testing different mixtures and devices as preventatives for the peach tree borer—in co-operation with the Bureau of Entomology, United States Department of Agriculture.

(7) Investigation and study of green-house pests.

SAN JOSE SCALE.

Among the progressive orchardists this insect is looked upon as one that can be easily controlled by the application of the proper remedies. We are all eager, however, to secure that remdy that is most desirable to employ; accordingly, it is necessary that we continue to experiment with the different solutions as they come upon the market and also test the different combinations and treatments of the previously-accepted remedies.

Our tests the past year were conducted with a view of comparing—first, fall treatment and spring treatment, and both fall and spring treatments of the lime-sulphur wash; second, the relative value of flowers and flour of sulphur in making the wash, and, third, the efficiency of the wash in controlling San José scale in apple trees.

Also various experiments were employed, testing with different strengths, the efficiency of different patent insecticides sold in this State to control the scale. About 840 apple and 540 peach, making in all 1,380 trees, that were employed in these experiments. Full details will be given in a forthcoming bulletin. It may be stated, however, that after a study of the results of these experiments, we continue to recommend the lime-sulphur wash as being the most satisfactory treatment for the scale. Further, that better results may be expected by applying the wash as late in the spring as possible, before the buds open.

Before dropping the discussion of this insect, I want particularly to call the attention of all orchardists and general farmers to the serious menace that the osage orange hedge is in this State in harboring the San José scale. There are indeed few of such hedges that are not infested with the pest, and I trust all of you will do all in your power to either destroy such hedges or see that they are treated regularly.

ORCHARD INSPECTION.

Considerable new territory has been inspected by our local inspectors during the past year, and as was expected, the number of trees inspected as a whole, is not as large as last year, on account of the new territory not being so thickly planted in trees as were the other parts of the State. Some of the local inspectors were not able, on account of other business, to do as much inspection work as we had anticipated.

In this connection, the officers of the State Horticultural Department are hampered in that we have not sufficient appropriation to allow us to employ the inspectors regularly, or even the means whereby to give the compensation necessary for the employment of men wholly competent to conduct the work.

Through the courtesy of President Silvester, the local inspectors were given a two-weeks' course at the College last winter, to better fit them for giving information in regard to the control of injurious insects and plant diseases.

Many complaints have come to this office in regard to neglected orchards in all parts of the State. An earnest effort is being made by the officers to have all such neglected orchards treated, or destroyed, as far as our funds will permit.

Our assistants commenced work recently in a certain locality with instructions that every diseased tree be treated or destroyed. We expect to extend this work in all parts of the State, and stand ready to enforce the State Horticultural law, in cases of necessity, in order to protect all those orchardists who are giving their trees proper attention.

The amount of inspection conducted during the past year is given in the following table:

Counties.	No. Peach Trees Inspected.	No. Apple Trees Inspected.	No. Pear Trees Inspected.	No. Other Trees Inspected.	No. Trees Infested, San José.
Anne Arundel....	29,606	8,961	2,370	137	17,348
Allegany..........	4,749	10,754	1,465	8,294	2,954
Carroll............	5,038	2,777	945	1,520	162
Calvert...........	95,211	510	800	......	9,016
Caroline..........	254,231	10,122	8,786	760	12,652
Frederick.........	50,205	15,790	1,755	425	19,770
Garrett...........	4,865	692	324	402	7,158
Montgomery......	1,584	2,156	54	52	12
Queen Anne......	3,850	......	......	......	150
Talbot............	15,810	30	450	400	1,429
Worcester.........	4,453	2,204	264	233	2,330
Washington.......	158,935	19,100	480	21,089	11,230
Totals.......	628,537	72,586	16,893	33,312	84,271

It will be seen that a total of 827,045 trees were inspected, and of that number 84,271, or about ten per cent, were found infested with San José scale.

NURSERY INSPECTION.

This phase of our work may be considered as routine in early Spring and in August and September. Thirty-six nurseries were inspected; there are others in the State that have not as yet been inspected, which will increase the number of certificates issued. This work is done conjointly with the State Pathologist and our Assistants.

The nurserymen, as a whole, are desirous of a close inspection of their nurseries and give us hearty co-operation in preventing the scale and distribution of discarded nursery stock.

COLLEGE AND EXPERIMENT STATION WORK.

A decided change and increase in the courses given in this Department has been brought about the past year, thus enabling a student who wishes to specialize in this science, an opportunity for more work and experience in the subject, and thus better fit him to either take advanced work or accept a position of emolument in his chosen field.

A special course in economic entomology is offered for those students who only desire the information for the control of our injurious insects.

As stated heretofore, the local inspectors who are required to take a course at the College, were given an equal amount of work in this Department.

The writer has been called upon to deliver several talks on injurious insects before Farmers' Clubs and Grange meetings, in addition to attending most of the county Public School Institutes on the Eastern shore and giving talks on the importance of this and allied sciences, to a limited extent, in our public schools.

Fortunately, the work at the Experiment Station can be done conjointly with the State work, from the standpoint of experimentation. Accordingly, the results of our experiments are published through the Experiment Station Bulletins. By the plan formed of one of my assistants working exclusively on various investigations, it is hoped that more results will be forthcoming.

OFFICE WORK.

There has been a decided increase in the office work of this Department during the past year, necessitating the employment of extra force for the proper handling of same.

Much time of the Entomologist is taken up in correspondence, there being over 7,000 personal letters and over 10,000 circular letters mailed from this office. It is thought, however, that this is time well spent, as oftentimes more information is received by personal letters than any other means, for they are usually carefully read.

In addition, the proper filing of the inspectors' reports and keeping the orchardists' cards up to date, require much time.

Bulletin No. 111, "The Oyster-shell scale," and No. 112, "Treating San Jose scale," both of which are now in press, will be published shortly from this Department, by the Maryland Experiment Station. Also several letters and articles have been written for the public press.

Through the courtesy of Director Patterson, Mr. A. B. Gahan, Assistant Entomologist in the State Horticultural Department, has been transferred to Assistant in the Experiment Station work. The vacancy thus caused is capably filled by Mr. George P. Weldon, graduate of the Colorado Agricultural College.

Mr. H. M. Strout resigned as stenographer of the Department November 1st, and we are experiencing much difficulty in filling this position with a competent person at the salary that our funds will permit.

It is pleasing to acknowledge the co-operation of the public in the State, and also that of President Silvester and Director Patterson.

I also express my appreciation to my assistants, who have ably aided me in the prosecution of the work of the Department.

FORESTRY IN MARYLAND.*

(Illustrated.)

PROF. F. W. BESLEY, STATE FORESTER, *Baltimore.*

When the first settlers came to Maryland they found almost the entire country covered with forests, which had remained untouched through centuries. The forest must be subdued with ax and fire to make way for agriculture, which is the very foundation of civilization and progress. This attack on the forests grew more intense as new settlers came to carve out homes in the wilderness, and so for 200 years the work of destruction continued. The time came, however, when all of the good plow land was cleared and, indeed, it was found that the thing had been overdone, for some of the land that had been cleared was found unfit for agriculture and so was allowed to grow up in woods again. This clearing of non-agricultural land

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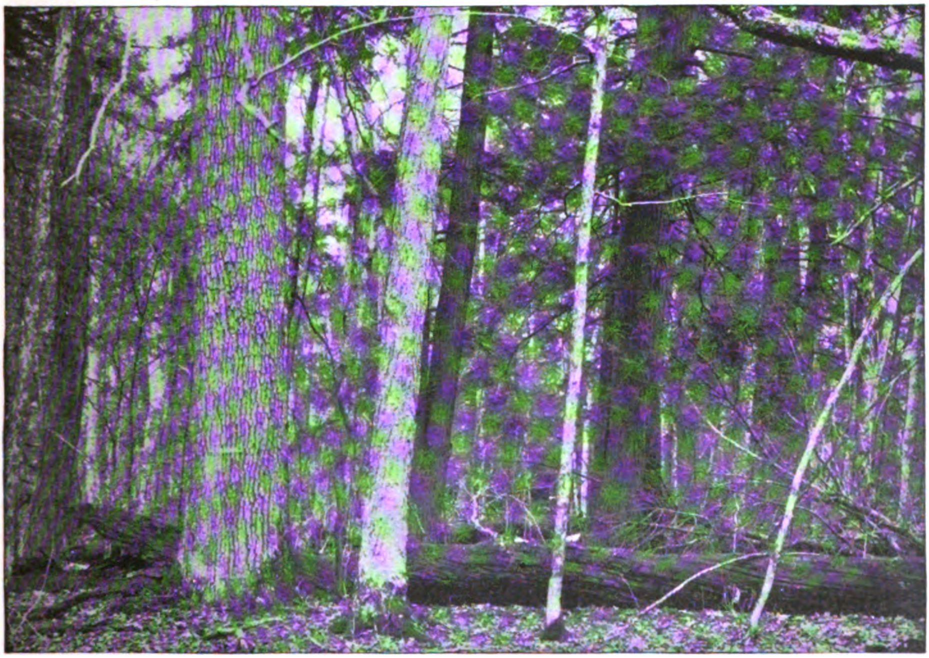
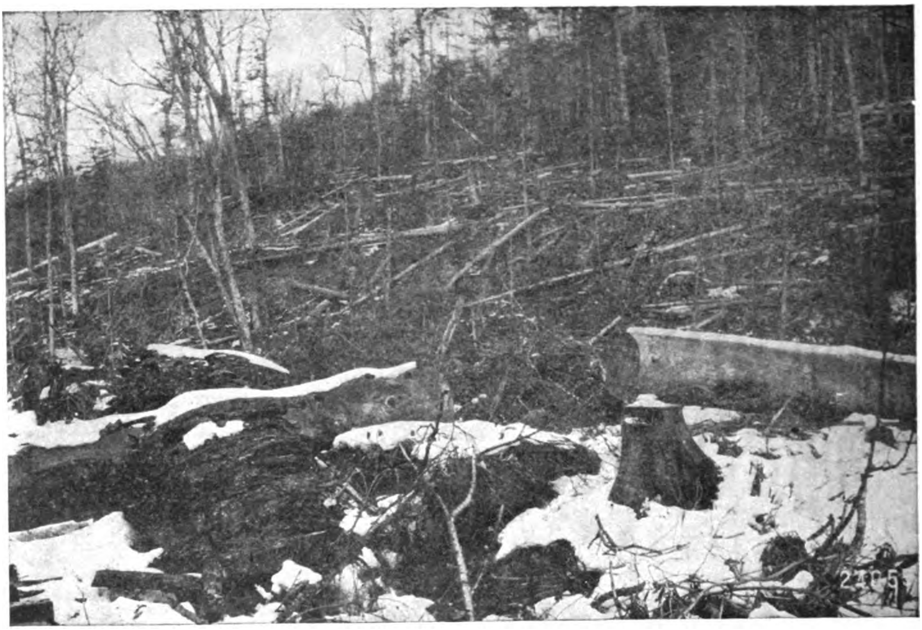
*NOTE.—Prof. Besley's address was beautifully illustrated by lantern slides.

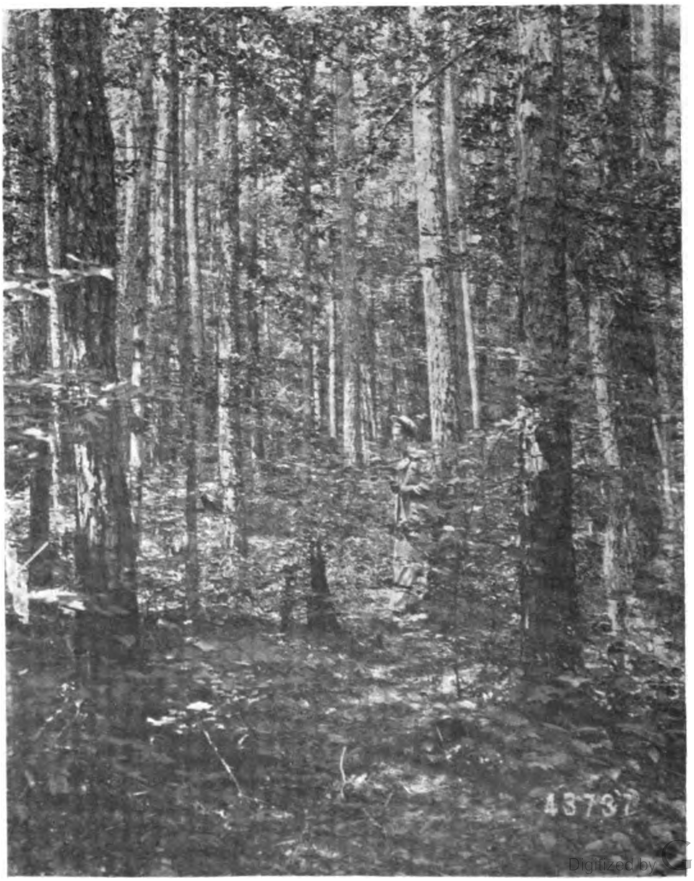
Cleared land returning to forest, Alleghany Co., Md.



Virgin forest of oak and hemlock in Western Md.



Cut and culled forest, Garrett Co., Md.



led hundreds of families into poverty and forced them to seek a living elsewhere, as the grown-up fields and abandoned log houses in some parts of the State attest. It also points conclusively to the fact that a large part of the area of the State is suitable only for tree growth, and to pervert it to any other use must inevitably lead to disaster. Other changes have resulted.

The early settler built his cabin out of logs that he cut in clearing the land, and the timber for which he had no immediate use was burned. When settlements were founded later a large quantity of building material was needed, and so there began a system of culling over the forests that were convenient, to supply this demand. The saw mills have moved from one tract of woodland to another until about all of the good saw timber in the State has been cut over at least once. The lumbering operations leave the ground covered with tree-tops and brush, the fuel for destructive fires that so frequently follow the saw mill and help to further impoverish the already crippled forest. Under these extravagant, wasteful methods, inherited from times when timber was over-abundant, cutting has been so severe as to imperil the local timber supply. It is safe to say that the productive capacity of woodlands is to-day little more than half what they should be or can be under a correct system of management.

The experience of Maryland is not unlike that of all the Eastern States, and, indeed, it is a repetition of what was taking place in Europe about 600 years ago. Our natural resources are not appreciated fully until exhausted, or a sufficient scarcity is created to raise their cost to the point where we begin to feel it. The price of lumber has steadily advanced, especially in the higher grades, to almost double what it was ten years ago. This has started the thoughtful to thinking, and as the question engages more attention the remedies suggested are more favorably received. In 1900 the State Geological Survey, in co-operation with the Federal Forestry Bureau, began a study of the forest conditions of the State. This was in the nature of an Economic Survey, to show the relation that forests bear to other natural resources as well as their value to the State.

It has been apparent for some time that the forest interests of Maryland and the perpetuation of the local timber supply demanded State legislation to make the work effective. In this connection your own Society, as much as three years ago, by a resolution, recommended the enactment of certain laws for the protection and improvement of forest lands. While this resolution failed to receive the attention it deserved at Annapolis, an interest was awakened that made successive steps, in securing forest legislation, more certain. Last winter a Forestry bill was introduced, by a member of your Society, and passed by the Legislature. The new law is an excellent beginning in forestry legislation, and it is believed that with the support of friends of forestry in the State much may be accomplished. Under the law a State Board of Forestry was created, which board has elected a State Forester. The State Forester is charged with the duty of carrying out the provisions of the law and of promoting all forest interests in the State.

The work has been organized along the following lines:

1. Ascertaining the forest resources and forest needs of the State.
2. Bringing practical forestry to the attention of the people.
3. Co-operating with owners of woodlands and introducing systematic management.
4. Establishment of state reserves.
5. Inaugurating a forest warden system.

THE STATE'S RESOURCES.

The value of the forest products of the State is about $5,000,000 annually, and ranks next to those of agriculture. Nearly all of the original growth has been cut and, under neglect and misuse, most of the cut-over lands are not yielding half a crop. When we consider that nearly half of the land area of the State is in woods or brush, this means an immense loss. A loss not only to the land owners, but also to the State in the prestige of industries that depend directly or indirectly upon a cheap supply of wood. The relation in area between the farm lands and the forest lands have become fairly stable, so that the stage in our economic development has been reached when there is little excuse for neglecting to apply the principles of improved forest management to woodlands that will likely always be woodland. They should be regarded as producing capital, and as such, return a good rate of interest. The forest area of the State, estimated as 44 per cent of the total land area, should be sufficient, under proper management, to furnish all of the timber we need, except perhaps some of the woods that cannot be grown here. As it is, we are importing, every year, immense quantities of lumber from other States.

The woodlands may be divided into two kinds: first, those that are too rocky, sterile, or swampy for agriculture or anything else; and second, those that occupy good soil suitable for agriculture, but in which a small part of the land is of greater value for a woodlot than it would be as a cultivated field. Wood is indispensable and the farmer must have his woodlot even if it takes valuable land, although wood is a crop that will yield good returns on very poor soil. The woodlands have been culled over so many times for the best of the timber that what remains is of inferior kinds, and of poor quality. Such a system of selection must naturally lead to an impoverishment of the growing stock. Under correct forest management, each successive cutting should be the opportunity of ridding the forest of the undesirable trees and of fostering those selected for the succeeding crop.

Because of the variety of conditions in soil, elevation and climate, in different parts of the State there is a corresponding variety of forest resources. Almost all of the woods native to the Eastern United States can be found within the State. In the mountains we find the spruce, hemlock, white pine, birch and beech—all valuable constituents of the Northern forests. There are also, through the western and central portions of the State, the valuable white oak, red oak, poplar, walnut, hickory, etc., which give to the Middle Atlantic States timber of the highest quality. On the Eastern Shore is to be found the loblolly pine, and cypress—so valuable a constituent of the Southern forests. It would seem that all of the Eastern portion of the United States had contributed of its best to give Maryland a rank unexcelled among the State in her variety of species, particularly those of commercial value.

THE STATE'S NEEDS.

The forests of Maryland bear a close relation to the important industries and have helped immensely in their development. The woodlands are constantly drawn upon to supply the lumber manufactured in the State and which, according to the incomplete returns of the last census, had a value of $2,650,000, and gave employment to an average force of 1,964 men. In every community there is a demand for building material of various kinds which the local saw mill is called upon to supply. The material manufactured in this way is not generally included in the census returns, but amounts to a great deal.

In the western part of the State are coal mines of inestimable value. In the operation of these mines large quantities of timber are required. The shortage in the supply must, of necessity, seriously handicap the development of the State's mineral resources. According to the last census the value of the mineral product for the year 1902 was over $7,000,000, and gave employment to 6,826 men.

Maryland always has been noted for its tanneries. Since the operation of a tannery is dependent upon a cheap supply of bark of special kinds, the continuance of this industry is jeopardized with the exhaustion of the supply of hemlock and chestnut oak bark. In 1905 there were only six tanneries using 7,500 cords of bark, valued at $45,000, which represents a serious decline in this industry. Another industry dependent upon wood is that of the pulp mills. No accurate statistics are available, but it is beyond question that this industry is a large user of wood and must be encouraged. We all know the importance of railroads in developing the State's resources, and yet railroads cannot be built without an abundance of timber for ties and bridge construction. In the same way the telephone and telegraph companies, which are so necessary to the business of the State and minister to the convenience of the public, depend upon the forests to the extent of hundreds of thousands of trees every year. Causes which operate to reduce our forest resources must, by the nature of the relation which the forest bears to these industries, hinder their development. The converse must also be true, that anything which will increase the productiveness of our forests will naturally aid these industries.

The woodland owner should recognize the forest as his capital and the increase as the rate of interest yielded by the investment. If he takes more than a legitimate interest, or the natural growth, he is cutting into his capital. With our present knowledge of tree growth and the requirements of trees, it is possible to determine with ease, and a fair degree of accuracy, the rate of growth, and the best methods of treatment to secure the best results. Even if it were possible to put every acre of our woodlands under forest management at once, there would be a shortage of timber before the lands could recover from their present condition and produce another crop. This is overcome in a measure by the treatment of woods with certain preservatives whereby those that have been regarded as inferior may take the place of the very durable woods. This is a great saving of our forest resources and will prolong the time before we experience a timber famine, as is predicted by many, within twenty years.

BRINGING FORESTRY TO THE ATTENTION OF THE PEOPLE.

However much we may see the need of introducing forestry, little can be accomplished until the land owners are convinced that it will pay. Nearly all of the woodlands are owned by farmers and it is to them that we must appeal. Forestry is comparatively new and little understood, so that progress will be slow. It is the purpose of the State to utilize all the available channels of information for reaching the owners of woodlands. The county newspapers and the public press generally is being used for the dissemination of information regarding forest resources and the work that the Board of Forestry is doing. Special articles on forestry subjects are being published in the county papers. A large list of names of those who may be interested in forest improvement is being made, and as the publications of the Forester's office are issued they will be mailed to all our mailing lists. The members of this Society can do us a good service by sending in the names of those who own woodlands and might be interested.

As time and opportunity offers, the State Forester addresses Grangers, Farmers' Clubs and Farmers' Institutes. These addresses are confined to practical forest problems such as the farmer has presented in his woodlot or timber tract. Whenever practicable, visits are made to neighboring woodlots and the principles of forest improvement illustrated by object-lessons. The law provides that the State Forester may co-operate with owners of woodlands and with those desiring to do forest planting in advising with them as to matters of forest improvement. The policy of the State is to offer freely the services of an expert in giving advice and making plans, but the woodland owner is at perfect liberty to accept this advice or help as he chooses. The nature of the help offered is to make an examination of the woodlands in company with the owner and to draw up a plan that shall not only meet the desire of the owner in serving the purpose for which the forest is intended, but at the same time provide for forest improvement. This is submitted to him for his consideration and guidance. The importance of this work is not only in benefiting the individual owner, but it is believed that examples of conservative forest management distributed over the State will serve as object-lessons to show what practical forestry means and what it will accomplish.

STATE RESERVES.

Another feature of the forest policy of the State, and one that is more fully under State control, is the creation of forest reserves and their management. In every State where there are mountains there is the urgent need of State or Federal forest reserves. There are several reasons for this. The forests of the mountains are of importance aside from their timber production. They are located at the headwaters of important streams, and as such, help to preserve an evenness of flow, not only preventing floods, but aiding in the development of water power. In high altitudes under a more rigorous climate and with sterile, rocky soil, timber growth is slow. After the original growth has been cut and fires have burnt up or severely damaged what is left, the owner does not see any profit in holding the land for a future crop, which he may scarcely hope to see in his lifetime. The land is unfit for agriculture and hence, if he can sell at all, it will be for a very low price. He may hold it for a few years and then, discouraged, let it revert to the State or county for unpaid taxes. This creates a lot of waste land that is not only unproductive to the owner, but fails to perform its best use as a watershed cover.

Protecting mountain forests should serve several uses. (1) Furnish a supply of timber. (2) Protect the watersheds which are the headwaters of important streams. Their use in this respect is to so regulate the flow of streams that there shall be no destructive floods and that the flow shall be uniform throughout the year, thus serving as a generator of water power. (3) They should serve as a pleasure ground for the people, where the natural beauty may be preserved and game may be protected. It is apparent that the individual cannot be depended upon to look after all these interests, and it therefore devolves upon the State to control a large part of these mountain lands. Already the State, through the gift of Mr. Robert Garrett, has about 3,500 acres in this region, and it is hoped that further acquisitions may be made. By putting the land under systematic forest management it is hoped to serve as an example of what practical forestry can do in the mountains. If, as we believe, it can be shown that conservative forest management is practicable in the mountains, private capital will be encouraged and men who wish to find recreation and cheap land will find it desirable to acquire estates in the mountains, such as has been so largely done in the Adirondack region of New York.

FOREST WARDEN SYSTEM.

The law provides for the appointment of forest wardens whose special duty is the suppression of forest fires. Before we can put forestry in the mountains, or anywhere else, on a safe and sound basis, fire protection must be assured. It is a recognized duty of the State to provide fire protection for the forests just as a city provides fire protection for private property. It is one of the things for which we pay taxes. A forest warden system will be organized in all parts of the State when the danger of forest fires warrants such a course. Our laws are adequate for the protection of property. It remains for the individual citizen, by his loyalty and public spirit, to assist in their enforcement.

THURSDAY, 9 A. M.

Meeting called to order by the President.

QUESTION BOX.

Q. *Should the Keiffer pears be worked?*

Mr. Harris: It has been our custom all my life to work all kinds of fruit. I believe every kind of fruit grown in Maryland requires close cultivation.

Q. *What is the cheapest and best commercial fertilizer that can be applied to a peach orchard?*

Mr. Towson: Phosphoric acid and potash.

Q. *What is the difference in Baldwin apples, size, flowers, and color? Where can you see the apple as it should be? What table or county?*

Mr. Harris: There are no Baldwins which have been a success on the Eastern Shore of Maryland. They ripen too early. It is not a Maryland variety.

Q. *What is the most profitable and salable Irish potatoes and the best formula for fertilizers that they need per acre?*

Mr. Little: Moore's Commercial. They are good yielders, have good size, grow very few small ones. Sir Walter Raleigh is a good potato, so is the State of Maine.

Q. *When is the best time to prune grape vines and best time to plant trees?*

Mr. Towson: Prune grapes when you can. Any time in November is a good time. Any time from November to February.

Q. *What is the objection to trimming in February?*

A. None at all.

Q. *When is the best time to transplant trees?*

Mr. Cohill: We prefer to plant all trees in the spring. If you can get them at home in the fall, heel them in and in that condition keep them over winter, and just as early as possible in the spring plant them, although we have already planted 12,000 trees this fall. I would not plant peach trees in the fall. They seem to freeze.

Q. *Would they not freeze if heeled in?*

Mr. Cohill: No; cover them up.

Mr. Hughes: I prefer the spring for peach, though I prefer fall for apple.

Mr. Towson: There is a year's difference in the growth of the peach trees when planted in the fall.

Q. *What is the best formula for fertilizers for potatoes?*

A. Barnyard manure and chicken manure.

THE APPLE OUTLOOK.

Prof. S. A. Beach, *Ames, Iowa.*

In entering upon a discussion of the apple here it will be assumed that this audience is particularly interested in the commercial phases of the subject. If such be the case it does not imply that this Society is indifferent to the importance of the proper development and management of home orchards, nor does it signify a lack of appreciation of the great value of the work of amateur fruit-growers in collecting and testing new or rare fruits and in keeping alive those varieties of most delicate texture, flavor and color and of highest quality which are suited to the commercial orchard and which would soon become extinct, were it not for the amateur. Rather this special interest in commercial apple-growing signifies that the business has better prospects and is offering greater opportunities for success than it has done in the past. It is commanding attention from wide-awake and enterprising men to a greater degree than ever before. Will it pay to rejuvenate the old apple orchards? How can the commercial orchards be made more profitable? Is it advisable to extend the planting of the apple in Maryland? If so, under what conditions and with what varieties? Such questions as these are undoubtedly being carefully studied by many Maryland fruit-growers.

It would be presumptuous for one who has had no experience in apple-growing under Maryland conditions to attempt to answer these questions specifically and in detail, nevertheless it may be of mutual advantage for us to undertake a consideration of some of their more general phases.

Let us first inquire what commercial rank does the apple hold among the fruits produced in this country?

THE STATUS OF THE APPLE AMONG AMERICAN FRUITS.

Turning to the Census Report for 1900, we find that the total value of the output of fruit and fruit products for the United States in the census year of 1899 was about one hundred and thirty-three million dollars, as shown in the following statement:

Nuts	$1,950,161
Sub-tropical fruits	8,549,863
Vineyard products	14,090,937
Small fruits	25,030,877
Orchard fruits	83,751,840
Total	$133,373,678

The value of the different orchard fruits is not given, so that we cannot tell definitely how much of the eighty-three million dollars' worth of orchard fruits was supplied by the apple, but aside from the output of cider, vinegar and evaporated fruit the orchards produced 175,397,626 bushels of apples out of a total yield of all orchard fruits of 212,366,646 million bushels or more than 83 per cent of the entire quantity. A reasonable estimate of the value of apples and apple products of the United States would make it at least fifty millions of dollars or 60 per cent of all orchard products, and about 38 per cent of all fruit products. This is more than twice the value of all small fruits, more than three times the value of all vineyard products and more than six times the value of all sub-tropical fruits produced in the United States that year.

The November Consular and Trade Reports of the U. S. Department of Commerce and Labor for 1906 states that the total exports of fruits from this country in 1905 reached a value of $15,297,391, of which fresh apples supplied $3,859,375 and dried apples $2,208,414, a total of $6,067,789, not including the exports of canned apples, or 40 per cent of the total value of all fruit exports for 1905.

These facts concerning fruit production and the export trade in fruits lead irresistibly to the conclusion that as corn is king of the farm crops, so the apple is king of the fruit crops in this country. An examination of the census reports shows that this is true in Maryland, as well as in other parts of the country and that even in this land of peaches the apple is king of fruits.

GEOGRAPHICAL DISTRIBUTION OF APPLE CULTURE IN THE UNITED STATES.

Where is the realm of King Apple? What regions of the country are producing this fruit and in which of them does it attain greatest commercial importance?

The accompanying map shows those portions of the United States in which the yield of apples in 1899 exceeded 1,000 bushels per county.

The following statement, derived from the Census Reports of 1890 and 1900, shows for each of two census years the yield of apples in bushels per 1,000 acres of farm land, taking the farm land reported in 1900 as the basis for determining the unit area:

I.	1900.	1890.
1. New Jersey	1,633.4 bushels.	212.5 bushels.
2. Connecticut	1,604.1 "	862.3 "
3. Pennsylvania	1,241.8 "	388.1 "
4. New York	1,064.5 "	375.0 "
5. Massachusetts	961.2 "	537.3 "

II.	1900.	1890.
6. Ohio	841.4 bushels.	563.06 bushels.
7. Rhode Island	745.1 "	525.4 "
8. West Virginia	703.6 "	416.7 "
9. Delaware	659.0 "	102.8 "
10. Maryland	609.2 "	272.7 "
11. New Hampshire	545.1 "	632.5 "
12. Michigan	508.1 "	749.06 "

III.	1900.	1890.
13. Virginia	494.0 bushels.	421.5 bushels.
14. Indiana	398.8 "	406.4 "
15. Illinois	279.7 "	292.3 "
16. Kentucky	275.3 "	485.7 "
17. Tennessee	264.7 "	357.9 "

IV.	1900.	1890.
18. Vermont	247.3 bushels.	256.8 bushels.
19. Maine	222.2 "	487.7 "
20. North Carolina	204.9 "	333.6 "
21. Missouri	191.1 "	226.5 "
22. Arkansas	160.9 "	113.8 "

V.	1900.	1890.
23. California	121.0 bushels.	57.4 bushels.
24. Iowa	90.6 "	145.8 "
25. Oregon	86.8 "	103.1 "
26. Washington	85.8 "	34.7 "
27. Kansas	77.1 "	89.1 "
28. Idaho	69.8 "	27.5 "

VI.	1900.	1890.
29. Utah	46.1 bushels.	13.7 bushels.
30. Nebraska	44.6 "	39.2 "
31. Alabama	34.7 "	59.8 "
32. District of Columbia	33.3 "	161.06 "
33. Indian Territory	30.6 "	..... "
34. New Mexico	27.7 "	7.2 "
35. Colorado	27.1 "	7.5 "
36. Georgia	25.4 "	80.03 "

VII.	1900.	1890.
37. South Carolina	18.0 bushels.	31.1 bushels.
38. Wisconsin	15.2 "	80.1 "
39. Mississippi	13.6 "	33.2 "
40. Oklahoma	7.07 "	..... "
41. Arizona	6.9 "	1.01 "
42. Louisiana	6.1 "	10.5 "
43. Texas	4.7 "	5.9 "
44. Minnesota	4.5 "	3.05 "
45. Nevada	4.02 "	11.7 "
46. Montana	3.7 "	.49 "
47. South Dakota	.8 "	.07 "
48. Florida	.43 "	.59 "
49. Wyoming	.12 "	.004 "
50. North Dakota	.08 "	..... "

The relative amounts of the different yields are presented graphically in the accompanying chart.

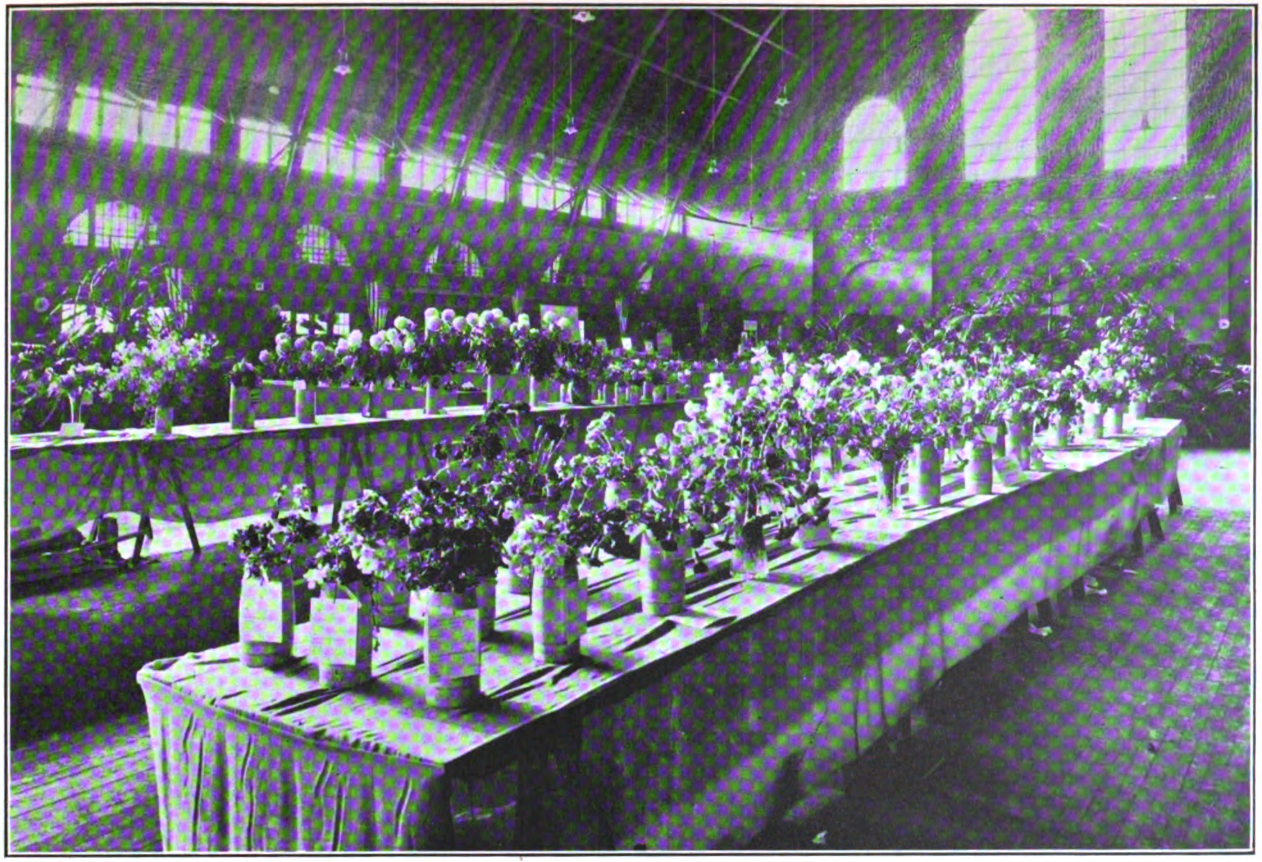
Since the apple crop of 1899 was more nearly representative of a normal yield than was that of 1889, it is chosen as the basis of further comparisons. Those States which gave a yield of more than 950 bushels of apples per 1,000 acres of farm land are: New Jersey, Connecticut, Pennsylvania, New York, and Massachusetts. All these are in the North Atlantic Division of States and constitutes a continuous territory with New York as the central State, and the others contiguous to it on the East and South. This group is designated on the accompanying chart as group number I. The 1900 Census credits it with a yield of 59,545,171 bushels of apples. In this territory the Baldwin variety holds unquestioned primacy.

The next lower group is designated group II. It includes those States yielding from 500 bushels to 950 bushels per 1,000 acres of farm land. These are Ohio, Rhode Island, West Virginia, Delaware, Maryland, New Hampshire, and Michigan, and show a total yield of 43,216,627 bushels. I have not the figures at hand to show whether the Canadian province of Ontario should be included here, but I judge that it belongs either here or in the preceding group. Note that the territory included in this group is adjacent to that of the first group and extends the Baldwin belt practically to its limits, reaching on the north and west the regions where the Baldwin fails on account of the severities of the climate, and overlapping on the south and west the borders of the Ben Davis region. With exception of Delaware, Maryland and West Virginia, the States thus far named are wholly or parly included in Pomological District No. 2, of the American Pomological Society; that is to say, all but three of the States in which the yield exceeded 500 bushels per 1,000 acres of farm land are in one pomological district, and these three border this one district.

The next is group III. It includes those States in which the yield was from 250 bushels to 500 bushels per 1,000 acres. It takes in Virginia, Kentucky, Tennessee, Indiana, Illinois. These border group II on the south and west and are in the region dominated by the Ben Davis. They show a total yield of 39,075,902 bushels.

Include in the next group those States which produce from 150 bushels to 250 bushels per 1,000 acres. This is designated on the chart as group IV. It gave a total yield of 16,568,964 bushels. It takes in Vermont, Maine, North Carolina, Missouri, and Arkansas. The first two named border the Baldwin district on the northeast, and

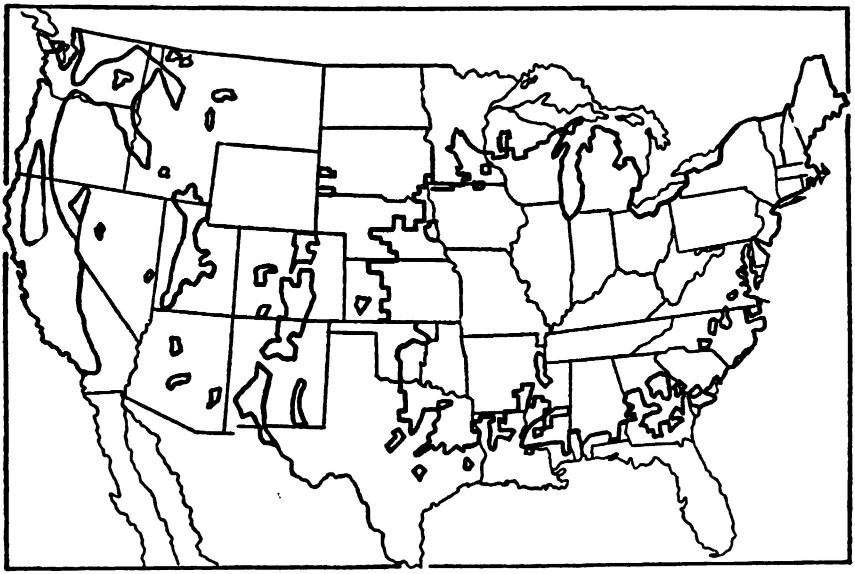
PLATE V.



PART OF EXHIBIT AT ANNUAL MEETING, BALTIMORE, MD., DECEMBER 5 AND 6, 1906.

extend into the Wealthy district, which marks the northern limit of commercial apple-growing. The third borders the Ben Davis district on the southeast and the two last-named extend the Ben Davis district on the southwest.

Put into the group V those States which gave from 50 to 150 bushels per 1,000 acres. It takes in California, Iowa, Oregon, Washington, Kansas, and Idaho, and showed a total yield of 11,659,097 bushels. In one of these States, Kansas, the primacy of the Ben Davis is still undisputed. The others can be regarded as neither wholly Ben Davis nor wholly Baldwin territory. The Ben Davis extends into southwestern Iowa, but in northern Iowa belongs in the Wealthy district in which the types of apples are unlike either Baldwin or Ben Davis. In some districts in the States of California, Oregon, Idaho, and Washington, and particularly in portions of Washington, the Baldwin reappears along with many of its old companions which are well known in the Eastern Baldwin district, but in other portions of these States the Ben Davis and its allies hold supremacy.



COUNTIES WHICH PRODUCED MORE THAN 1000 bu. APPLES 1899

Put into group VI the territory showing a yield of from 25 bushels to 50 bushels per 1,000 acres. It includes Utah, Nebraska, Alabama, District of Columbia, Indian Territory, New Mexico, Colorado, and Georgia. These fringe the Ben Davis territory on the south and west. They are credited with a total yield of 3,546,186 bushels.

In the last group, VII, are included those States which gave less than 25 bushels per 1,000 acres; namely, South Carolina, Wisconsin, Mississippi, Oklahoma, Arizona, Louisiana, Texas, Minnesota, Nevada, Montana, South Dakota, Florida, Wyoming, North Dakota. All these States are either along the northern or the southern boundaries of the apple belt or in mountainous regions in which the apple has thus far been grown with difficulty, if at all. The total yield of these States was 1,785,663 bushels.

The following statement shows for each of the above-mentioned groups of States the total yield of apples in 1890:

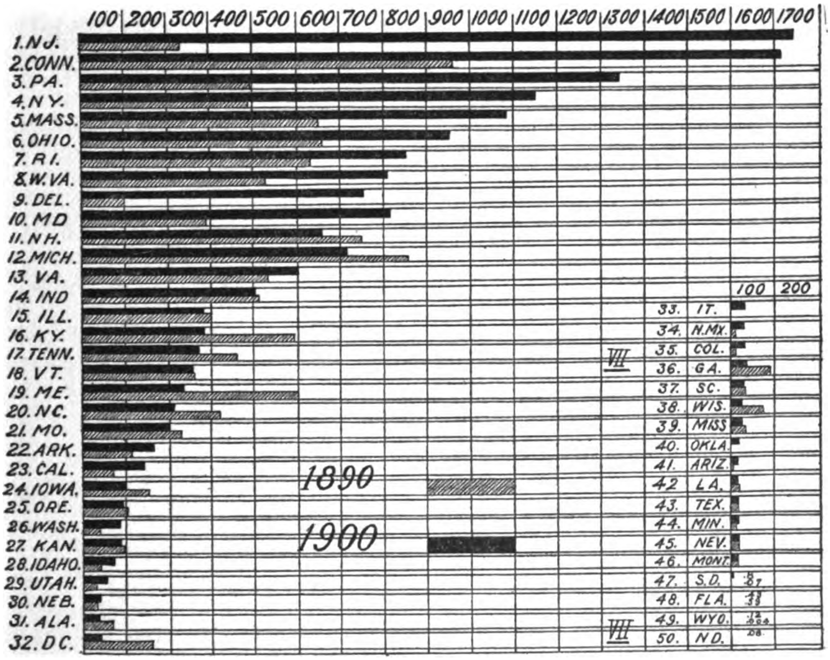
Group of States. No. Bushels per 1,000 Acres.	1900. Area Farm Land, Approximate.	1900. Bushels Apples, Total.
Group I, above 950 bushels	48,800,000	59,545,171
Group II, above 500 bushels, below 950 bushels	62,700,000	43,216,627
Group III, above 250 bushels, below 500 bushels	115,900,000	39,075,902
Group IV, above 150 bushels, below 250 bushels	87,250,000	16,568,964
Group V, above 50 bushels, below 150 bushels	129,900,000	11,659,097
Group VI, above 25 bushels, below 50 bushels	102,100,000	3,546,186
Group VII, below 25 bushels	1,321,900,000	1,785,663
Totals	1,868,550,000	175,397,626

ADAPTATION OF VARIETIES TO PARTICULAR REGIONS.

In the above comments on the geographical distribution of the apple we have distinguished certain regions by designating them as Baldwin territory and certain others we have called Ben Davis territory, thus recognizing the fact that different commercial varieties become predominant in different districts. Frederick Taylor, Chief of the Department of Agriculture and Horticulture in the Louisiana Purchase Exposition, in one of his published letters has made the following comment on this subject:

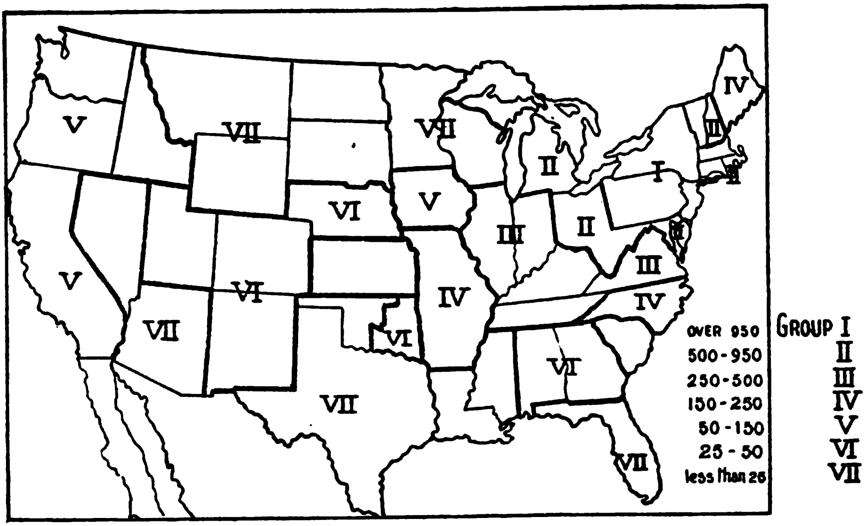
"A most interesting and, to the prospective planter important, comparison grows out of the consideration of the relative number of trees now in orchards of our two great representative types of winter apples. Speaking in general terms, it may be said that from the Rocky Mountains eastward, the commercial winter apple districts may be roughly divided into two great regions or belts. In the more northern one of these are grown such varieties as Baldwin, Rhode Island Greening, Northern Spy, Tompkins King, Hubbardston and the Russets; while in the more southern group Ben Davis, Winesap, York Imperial, Minkler, Grimes and Willow Twig may be considered the chief varieties."

APPLES: NO. BU. 1890–1900
UNIT AREA 1000 A. FARM LAND 1900.



It is instructive to note the origin of the apples named in these two lists which Mr. Taylor has given, Baldwin, Hubbartston and Roxbury Russet originated in Massachusetts, Rhode Island Greening in Rhode Island, Northern Spy in western New York from seed grown in Connecticut, Tompkins King in New Jersey, while Golden

Russet is supposed to be identical with an old English variety. It is uncertain whether Ben Davis originated in Tennessee or Kentucky or Virginia. It is uncertain whether Willow originated in New Jersey or Virginia. Winesap was early known in cultivation in New Jersey, but it may have originated further south. Minkler was first brought to notice under that name in Illinois, but possibly came from Pennsylvania. York Imperial originated at York, Pa., while Grimes originated in what is now West Virginia.



BUSHELS APPLES PER 1000 ACRES FARM LAND 1899. (CENSUS 1900)

The varieties of the first list originated in the North and have gained for themselves commercial recognition in the North. They have all been tried in the South, but are of no commercial importance there. They were borne on the westward tide of migration into the region of the Great Lakes and onward into the Mississippi Valley, the Missouri Valley, the Rocky Mountain region ,the Cascade region, and finally reached the Pacific coast. They have dropped out of the race in all the vast territory stretching from Lake Michigan to the Pacific coast, except in a few irrigated districts in the mountains, but they appear again as commercial varieties in portions of Washington and Oregon, as we have already seen.

The varieties of the second list have first gained commercial recognition for themselves in the region from New Jersey and southern Pennsylvania, southward through Virginia and westward through the Ohio Valley. They have all been tried in the North, but make no headway there. They have followed the tides of migration westward from the Ohio Valley, through the southern Missouri Valley, into and beyond the Ozarks, south-westward through Texas, New Mexico, Arizona, Nevada and California, and to the Northwest through the plains and mountain regions to the Pacific coast. In portions of the Pacific district they have become established in commercial orchards, but find their best development not in the Baldwin territory, but rather where, so far as the length of the growing season and its mean temperature are concerned, the climatic conditions most nearly approach to those that obtain in the region where the Ben Davis originated. These facts should impress upon every wide awake fruit-grower the folly of planting commercial orchards with varieties of apples whose only recommendation to his favorable consideration is, that they have proven successful in some other region. Admit to the commercial orchard only the varieties whose value in your region has been demonstrated. Test new candidates for favor in a limited way. Expect best results from those which have made good records in regions where the list of successful commercial apples is most nearly like your own list.

WILL IT PAY TO GROW APPLES?

Doubtless many in the audience are ready to ask "Is apple-growing a good business proposition in Maryland?" In reply let me ask whether there has been any year during the last decade when Maryland-grown apples in car-lots, free from scab and bitter rot and insect injury, could not be sold at satisfactory prices? I cannot answer that question for Maryland, but among the fruit-growers whom I have known during the last ten years, good apples have been considered good property. Two years ago, in a meeting of western New York fruit-growers, when the question was asked how many of those present would consider a commercial orchard of ten-year-old apple trees good property, men all through the audience raised their hands in the affirmative.

We little realize the possibilities that are opening to the American apple-growers in the way of increased home demand and enlarged foreign trade in apples and apple products. In the estimated production of apples in 1906 New York leads with a yield of 4,900,000 barrels, which is larger by 1,000,000 barrels than the crop of any other State, and yet, if equally distributed among its people it would give to each New Yorker but a half barrel of apples. That family which does not consume at least one barrel of apples annually for each member of the household is falling short of its high privileges in this direction. Permit me, by the way, to say that temperance workers would greatly promote their cause by encouraging the use both of fresh fruits and fruit products as articles of food. I believe that any one who will take the trouble to make a broad and careful study of this subject will find that where fruit is largely used in this way to give flavor and variety to the daily food, there is less craving and less demand for malt and spirituous liquors. But to return to the 1906 apple crop. The production for the entire country is estimated at 36,120,000, which is 12,025,000 barrels more than in 1905. Estimating the present population of the United States at 91,000,000, it appears that this is a yield of but two-fifths of a bushel of apples per capita. Apple orchards planted in 1907 will be 13 years old in 1920. Doubtless by that time the United States will have a population of at least 117,000,000. It is estimated that the population will have risen to at least 142,000,000 by the time the orchard is 23 years old, that it will be not less than 170,000,000 when the orchard is 33 years old, and more than 200,000,000 when the orchard is 43 years old. Is not this outlook encouraging to the apple-grower? But this this is not all of the story. While the American market for apples shall be increasing year by year the demand of the foreign trade may also show remarkable development. Take, for example, our trade with the United Kingdom. Last year there was imported by the United Kingdom over $10,000,000 of fresh apples, of which the United States furnished but about $4,560,000, while Canada and Australia supplied about $4,550,000. Our exports of apples to other countries than the United Kingdom were less than $1,000,000. What might this trade be were it properly developed to reasonable possibilities? In view of the possible development of our export trade in apples and apple products and with inevitable great increase in home demand for this fruit, why not plant apples?

VEGETABLES FOR THE MARKET.

J. Otto Thilow, *Philadelphia.*

Market gardening, to be successful and profitable, requires close attention, good judgment and hard work, even though systematically laid out.

All crops are not suitable to all markets, hence the profitable crops are such as should be grown by market gardeners and farm truckers. Location and soil are the first requisites; all extra labor must be diminished; long hauls are expensive. The time lost in a small market eats the profits, and also time which might be more profitably spent among the crops. Within the last ten years, 75 per cent of the Philadelphia market gardeners have cut down their large fields and turned their attention to more intensive cultivation, and this is mainly under glass. Many of this 75 per cent were forced to retire from their large areas because of the demand for the land, owing to the spread of the city's growth; yet it forced them into lines which they should have taken up with years before.

With a glass area under control, they are not subservient to weather conditions; they can hurry or prolong the crop to some extent; soil conditions can be had as wanted and, best of all, the glass permits of fall, winter and spring crops, and, because of this, an active trade has been created.

In 1895 we made investigations among the successful market gardeners of our own neighborhood (Philadelphia), and also Boston and Providence, where to-day the most extensive vegetable cultivation under glass is conducted.

It is assumed that the best way to tell things is to tell how things are being successfully done, to deal slightly with theory but largely with facts. We have gleaned from a series of field operations information, and have freely used the camera where an illustration tells of just how and with what material many of our market gardeners have, through long experience and experiments, come to the front with results from small beginnings and have achieved success.

One aggressive gardener, impatient with the slowness and small returns for his efforts in growing vegetables under glass in cold frames, took from the frames the sash and placed them on a framework shaped as ordinary four-quarter greenhouse, heated it evenly during the winter, and produced a crop of cucumbers which brought in the Boston market $30.00 per 100 in January. With this venture he was encouraged and plunged deeper, and now has the largest vegetable forcing establishments in the country. Should any one interested in this branch of market gardening desire to see how extensive the vegetable forcing is carried on in the East, a visit to Arlington and Belmont, Mass., near Boston, and the outskirts of Providence, R. I., would reveal wonders. One establishment at Arlington has one house 50 by 400 feet under one roof; such a house is devoted to growing lettuce and radishes at the same time, followed by beets and watercress. Everything is done by simplest methods; these houses have swinging sash on the vertical side, so that half of the house can be thrown open wide for throwing out the old soil and putting in the new, thus avoiding disease and insuring a new, fresh and rich soil for the crops. The crops grown are all profitable—the foremost is that of lettuce, then cucumbers, radishes, watercress, parsley, cauliflower and beans. The cauliflower houses produce two additional crops before the cauliflower plants require the full area. When the young plants are planted (and this is usually directly on the ground) young lettuce plants are planted between the rows and, after they are cropped, radishes are sown thin and produce a crop in four to five weeks; by this time the cauliflower needs the space for cultivation and free watering; they are then ready for market by March at the latest; the beds are then followed with a crop of radishes over all, or watercress, which is fully matured and marketed by the beginning of outdoor work.

Houses for growing vegetables as forced crops can and should be built with much less slant than the four-quarter span greenhouse for forcing cut flowers or ornamental plants. Many of these houses are built of sash, which are entirely removed after outdoor work is begun; the entire inside is exposed to the weather; a crop of clover is grown, which gives a good covering for turning under and supplying nitrogen and also rejuvenating the soil and, eventually, adds the humus so much needed for these active crops. In this way the same soil is kept going for several years, unless this preparation of the soil is going on outside and prepared and renewed annually.

Any one who has the skill to prepare the soil, grow the crops, and reap good returns, is also capable of introducing new methods, and can also establish a demand in any community which needs a good supply daily for hotel and home consumption.

It is also noticeable that, just at the time when these forced vegetables are produced by extra exertion and expense, that there is a good supply reaching our markets from the far South; they reach the northern markets in fair condition because of prompt delivery by express and even freight; but as transportation is the great factor in the expense account, these products are not cheap to the consumer, and fresh home production demands a better price and is in ready demand. This has been tested by growers around New York and Boston.

So much for the forcing house and its products. We will now turn our attention to glass cultivation without heat, or what is known to the gardener of this locality as frames or boxes, and as strings to the gardener of Long Island and Massachusetts.

In my observation of twenty-odd years, coming in close touch with the market gardener in the vicinity of Philadelphia and New York, I have found that they are constantly introducing new methods in growing and dividing the crops to best advantage. There are many market gardeners in the northwestern part of Philadelphia who have over one thousand sash in constant use during the fall, winter and spring—some have as high as two thousand; the Budlong people near Providence operate ten thousand sash. The frames are built without cross-pieces, and arranged so as to remove the ends. This admits of working with horse; the upper or north side is 12 to 18 inches high, the lower or south side is from 6 to 12 inches high; the alleys between the frames are 4 feet wide (these, too, are cultivated with the horse). In many of the extensive places high board fences are used as a protection from the north or west winds; large evergreen trees or tall hedges answer the purpose as well. The crops grown are lettuce, radish, corn-salad, parsley, beets, kohlrabi, celery, carrots, beans, spinach and mint. Rotation of crops as practiced now, having been inaugurated some years ago, seems to be beyond improvement, yet the demand will vary as the taste in other things, and other methods be sought. Spinach sown September 15, cut at Christmas; radishes sown in February, pulled in April, and followed with beans, is at the present time practiced by many gardeners. Lettuce plants put in in September, cut at Christmas, followed by radishes and beans, is a combination easily followed, provided the grower is generally successful with lettuce. Beets sown in February and followed with other crops produce early and profitable vegetables. Some of our aggressive gardeners put in young lettuce plants in October, sow either carrots or beets between the rows, and when the lettuce comes off they follow in same rows with radish.

These are harvested before the beets or carrots need the entire space. By this method all of the named crops find a market before the outdoor crops have become well started.

Cauliflower seed is sown October 5 to 15, the plants put in frames to stand six to the sash; either radish seed is sown between the rows or young lettuce plants are put in; either of the subsequent sown crops come off in time to give the whole space to the cauliflower plants. Care must be taken to ridge the cauliflower to prevent them bending over. The soil in the frames should be 24 inches from the glass at the back or highest part, with a sharp slant to the front.

Parsley is sown in the open ground in early spring on the same ground where a frame of lettuce has just been cleared. The parsley is sown in two rows 8 inches apart, then a space of 20 inches to admit of horse cultivation. This is cut and marketed all summer. On the approach of cold weather the frames are placed over the bed, and it supplies a profitable crop all winter and into the spring, until it begins to make its seed short. Many of our Philadelphia truckers have as high as five hundred sash in this one crop. It is necessary to protect these cold frames during severe weather with extra covering, and for that purpose the wooden shutter is used; these are made of beaded fencing, which is light. These are kept down either by long boards placed on them and weighted, or some other method, to hold them down in wind storms. Salt hay is used to a large extent directly over the glass. Nearly all of the large farm truckers in New Jersey resort to salt hay covering; it means handling twice daily. The New Jersey farm truckers use hot beds only, especially the tomato growers, who are very vigilant about their early crop. They protect the seedlings and also the transplanted plants up to blossoming time in these frames and hot beds, and when the weather is safe—say, the 10th of May—they are planted out into open ground. Those who grow extra early tomatoes do so by using cold frames, into which these advanced tomato plants are put four to the sash. These are kept sheltered and even forced up to June 1, when the sash are removed entirely, the frame becoming one mass of growth. The fruit is well set and, by June 20, a full ripe crop is harvested. In an advanced season they have been put on the market by June 10. As soon as the open air crop is ready for harvesting the frames are cleared and clover is sown, which is full grown by August; this is turned under, and a fall crop is put in, either plants of lettuce or seeds of spinach, radish or corn-salad. Neither time nor space will permit discussing open ground crops, as all growers know that which is most suitable and profitable to their markets and locality; yet, I recall how often our market gardeners who grow large crops of beets, cabbage and many root crops turn their product into the commission merchant's hands, and do so at a loss, cabbage sometimes yielding only 25 cents per barrel. This does not pay for the hauling. Beets will yield $1.50 per 100 bunches. Usually your crop will come along with other crops of the same kind and at the same time—there is a glut. This usually occurs with the crops which require the most handling and are the heaviest to transport. During the coal strike in the Pennsylvania coal regions the Philadelphia market gardeners, and those of other regions, who had large crops of cabbage, felt the loss of demand for this product seriously, as a large supply is used in the mining regions. These gardeners ran disc harrows over their fields, chopped up the crop and turned it under. Such crops do not pay on expensive lands. Cabbage at $1.50 per barrel does pay.

Kale is still grown by many, although that and spinach is raised over hundreds of acres around Norfolk and marketed at your door before our home crops are ready.

Asparagus can be made a paying crop by forcing in cold frames, although it is done at the loss of the roots after a very few years of this treatment; frames are placed over the bed running parallel with the rows and covering three rows. A crop of lettuce can be harvested by March 1, and followed directly with an early crop of asparagus, at 50 cents per bunch at least, and will net $1.50 per sash. This can be done after the asparagus has had fully two years' growth. The same is done with rhubarb, but the boards around the rhubarb must be 2½ to 3 feet high. A successful operator at Belmont, Philadelphia, follows the following plan: He takes rhubarb from the open ground in late autumn, packs them one foot apart on the ground under his greenhouse benches, and pulls the stalks twice in the early spring; the bed is 4½ feet wide by 150 feet long; the roots are worthless after this operation. The price he receives every year is $8.00 to $10.00 per 100 bunches, which are three to five stalks to each bunch. The space from the surface of bed to the bottom of bench is two feet; so there is no room lost. New roots are brought in each year. A grower near Boston has 320 sash over a bed of rhubarb. He pulls only once; average yield 20 pounds per sash, average price 7½ cents per pound, gross receipts $480.00. This means $1.50 per sash on one crop.

A few points on lettuce may be in place, it being the main crop in the forcing house, cold frame and open ground. We have noted particularly among the successful growers in the vicinity of Boston (and the method applies to anywhere in the country) that the seed for lettuce to be grown and matured in the forcing house is sown in beds in the open ground where there is no manure. This is done to get plants absolutely free from germs or mildew. This is highly important. After three weeks they are transplanted 3 inches apart each way into other beds in the open ground which are also free from stable manure; in three weeks more they are transplanted to the forcing house and set 8 inches apart each way. Proper ventilation and watering is highly important from that time on; a uniform temperature with good ventilation is necessary to get active growth; watering to be done on bright days if possible. After they begin to head the temperature can go to 40 degrees at night and 60 degrees during day, or as nearly as possible. Under these conditions they will head uniformly and crop 90 to 100 per cent. Many of these growers sow the seed August 1, plant in the house September 15, and market November 1, at a time when lettuce is in demand. By this method time is allowed for two crops of radish or one of watercress, then followed by beans. Usually they follow two lettuce crops with one of cucumbers.

Prices for lettuce can be given approximately. In winter, in the Philadelphia market, from $4.00 to $10.00 per 100, and quality good (size controls price); cold-frame lettuce, from $3.00 to $6.00.

The wholesale market on radish from $2.00 to $4.00 per 100 bunches of the red sort, put ten to twelve to the bunch, and, of the white sort, $6.00 to $8.00 per 100 bunches.

Cucumbers are like tomatoes—they need more codling and close attention in pollenizing, and this should be done about every other day, as the cucumber, like other plants of its tribe, bears two kinds of blossoms on the same vine—one staminate and the other pistillate; it is necessary for the pollen to be transmitted. This was formerly done by hand with a camel's-hair brush, but now the unpaid laborer, the bee, will do this work so much better, has become a useful ally to these growers, and should have harbor. The New England growers have one or more swarms, and as soon as the tomatoes and cucumbers are planted the hive is taken into the houses.

Tomatoes are started in seed beds in July; they are transplanted and then potted into 3-inch pots; this insures strong growth. They reach the forcing house bed two months after the seed is sown; they are then about 8 inches high. Well-rotted manure of any kind (except nitrogen) may be used for tomatoes under glass; sheep manure is excellent; ground bone and bone black are also suitable. The plants are set two feet apart in the house and trained to single stems by pinching off all lateral shoots, a heavy string is tied to the plant near the ground and then to the rafters directly above; the plant is thus trained directly upright. The day temperature should be from 70 to 80 degrees and the night temperature 60 degrees. The fruiting begins in three months from the sowing of the seed, or about six weeks after they are planted in the house. If pollenized regularly and evenly, the fruiting season lasts about three months.

These are some of the paying crops to which the vegetable grower might turn his attention, confining himself to a smaller area, and on the intensive plan his crops are in marketable condition out of season. Therefore, prices are more interesting, the occupation more fascinating, and there is a greater variation of crops in short periods. For prices of forced vegetables at this season:

Vegetable Market, November 1st, 1906.

Chicago—Cucumbers	75 cents to $1.00 per dozen.
New York—Cucumbers	50 cents to $1.12 per dozen.
Lettuce	$1.00 to $2.25 per strap.
Boston—Lettuce	50 cents to 75 cents per box.
Cucumbers	$2.00 to $5.00 per box.

December 1st, 1906.

Chicago—Cucumbers	65 cents to $1.00 per dozen.
Leaf Lettuce	40 cents to 45 cents per case.
Spinach	60 cents to 75 cents per box.
New York—Cucumbers	50 cents to 60 cents per dozen.
Lettuce (Boston)	$1.25 to $3.50 per strap.
Radishes	$1.50 to $2.00 per 100 bunches.
Tomatoes	10 cents to 25 cents per pound.
Boston—Mushrooms	50 cents to 75 cents per pound.
Tomatoes	15 cents to 20 cents per pound.
Cucumbers	$2.50 to $8.50 per box.
Lettuce	60 cents to 75 cents per dozen.

Prices in Philadelphia December 1, this year—For field crops—Beets, per barrel, $2.25; parsnips, $2.00; carrots, $2.50; celery, 7 to

10 cents per bunch; Savoy cabbage, 85 cents per barrel; salsify, $3.00 per 100 bunches; parsley, $3.50 per 100 bunches.

Corn salad, which is grown in cold frames only, is sold now at $2.50 per barrel, and must be cleared off by February, as it is lessened thereafter because of the southern lettuce reaching our markets by that time. Up to ten years ago, corn salad was sold at $6.00 to $8.00 per barrel, which was then only considered a fair price; so the growing of this salad is almost lost sight of.

VEGETABLES FOR THE HOME.

J. OTTO THILOW, *Philadelphia.*

This department of the home—the vegetable garden—is for several reasons assigned to some remote part of the place, if possible—first, the unsightly appearance of weeds; second, the overgrowing and decaying vegetables and tall corn and bean poles. In a properly conducted garden these conditions should not exist, particularly that of weeds and decaying vegetables, and, as for the corn and Lima beans, the ears of corn will all be ripe and pulled before any part of the plants show signs of turning color—a green corn plant is not unsightly. Lima beans can be grown the same as grapes, on wires drawn along posts set 8 feet apart, and need not be over 6 feet high. The Bush Lima has filled a long-felt want in this direction; so a vegetable garden properly laid out and operated with system is as attractive as a flower garden would be. While it produces no flowers to attract attention, yet the order and precision, the succession of crops, and the general layout is not only attracive, but also interesting.

Select, if possible, a plot which lays towards the south, southeast, or southwest, with exposure entirely to sunlight. Proper drainage is necessary, either natural or artificial. Prepare much in advance, to allow for modifications and changes; make the plan and layout according to the varieties to be used—an abundance of such as are liked and desirable and a limited supply of the less desirable ones. Avoid following root crops with those of same character, viz., do not sow turnips where beets have been, or carrots or parsnips after radishes; root crops succeed better after beans because of the nitrogenous nature of bean roots. This is not only a good rule for the same season, but holds good from year to year or rather from one season to the other.

So much has been written on the planting and sowing of the vegetable garden, plans have been submitted in the magazines and cultural directories well defined, and while they are a benefit to the average home gardener, they cannot be applied to every condition; space will not always permit one doing all he would like to do; yet, if it is possible, grow all the vegetables that are needed for the whole year. The roots can be buried during winter; such as parsnips, carrots, beets, salsify, turnips. Celery, lettuce and parsley are the easiest to grow, but the conditions for keeping are the most vital to save labor and expense.

Know where every variety is to go each season, having a plan to indicate each, and the quantity. One year's experience will indicate the quantity of each and, especially, of the sorts most used. If possible, at the opening of spring, have the ground plowed and harrowed; prior to this—say any time during winter—spread the manure evenly over the whole area, so when it is turned under it is evenly distributed and supplies food and moisture uniformly.

After plowing, a coating of commercial fertilizer—say, bone and potash, evenly distributed—will stimulate the growth and produce not only earlier vegetables, but establish them for the summer weather. A thorough harrowing is essential before the seed is sown.

Where plowing cannot be done, spading will do as well, and raking as well as harrowing. Under no condition have the ground broken while it is wet; the effects of this will be felt through the whole season. It pays to wait with the spring work until the soil is in proper condition; this can be determined by squeezing a handful of the soil, and if it cakes and appears sticky, then it is unfit to work; it should be dry and mealy, or partially so.

The next requisite and indispensable adjunct is the garden line. By dividing and subdividing and using the line, the garden can be laid out at the beginning of the season and so continue throughout. It not only presents order and uniformity, but makes the labor of weed-killing easy; it cultivates evenly and establishes system. Seed catalogues of the present day are explicit in their description of each variety of vegetable, designating planting time in the different localities as well as thorough cultural directions. These instructions are often overlooked, and sowing and planting is done as many think is about right. It takes usually two seasons to learn the methods and proper quantities of each type to sow, and space allotted for each.

Cultivation should begin at the first appearance of weeds and kept up through the season, and done only when the foliage is dry.

Permanent or perennial crops, such as asparagus, horseradish, herbs and rhubarb, should be together in one part of the garden, occupying an even space all the way across the garden, preferably in long rows. This last should be an inflexible rule with everything that is sown; it simplifies cultivating whether by hand or horse, the plants grow better and more evenly, and the crops can be harvested with more ease. Should one long row be too much space for one variety—say, of beans—use the green and wax sorts in the same row; early and late sorts likewise. The same is applicable to beets, carrots, cabbage, corn, cucumbers, lettuce, melons, peas, radishes, squash and tomatoes. Some of these can be grown, produce their full crop, the ground cleared off and followed by other and late crops, viz., corn, peas, beans (as snapshorts for shelling) and also late beets, cabbage, carrots, Brussels sprouts, cauliflower, celery, cucumbers for pickles, endive, kale, lettuce, parsnips, peas, radish, spinach and turnips.

In sowing, judgment should be used. More seed goes to waste and poor results oftener achieved through deep sowing than shallow. Mark out the rows on the level ground, so that after sowing and covering the ground is level. If the soil is very light, a good rolling after sowing is beneficial; but if heavy, use the back of rake after seed is covered.

It is not necessary to place each bean with eye downward and evenly spaced, but sow them from the open hand; let them fall thinly in the row; cover shallow in early spring and deeper as the season advances. This insures quick germination. When beans are above ground in the fourth leaf, draw the soil up to them on both sides of the row, and when dry. This is a rule for beans, as they suffer from too much moisture. In this latitude (Maryland) sowing and planting may be begun March 20 with extra early peas, beets, celery, carrots, leeks, lettuce, onions, parsley, salsify and spinach; April 1 to 5, wrinkled peas, parsnips, radishes and turnips, and plants of cabbage and cauliflower; April 15 to 20, beans of all kinds, and corn; May 1 to 15, egg plant, cucumber, melon, pepper, squash, pumpkin and tomatoes. Beans can be planted ten days apart until August 15; peas every week until June 10; extra early sorts from August 10 to 20, the last planting to be made with second early sorts. Lettuce can be sown as late as September 10; radish, September 15; spinach for fall and spring use, September 15; beets and carrots for winter use, July 20.

To take advantage of outdoor conditions, a frame of from two to six sash will be not only profitable, but a luxury. The following method is practiced by many private gardeners in the northern districts and mountains where the season is short: Sod is cut three inches thick and into six-inch square pieces; these are laid grass side down close together in the frame on leveled soil; the center is scooped out with a trowel, a handful of well-prepared light soil is put in the place, and the seed of either Lima bean, cucumber, melon, or squash is placed in this, and in from two to four weeks each piece of sod will have several well-established plants. These are transplanted to the open ground when danger of frost is over, thus avoiding chilly nights and cold rains in the early spring. This operation is begun three weeks to a month ahead of open ground work, as they can be protected on cool nights. The same has been done with corn. The sod is suggested because it not only lays close in the frame, but obviates disturbing the plant at all on planting to open ground. Celery was formerly sown in open ground in April and May; now it is sown in frames in February and March, planted out in April, and blanched by July and August, later plantings coming in succession.

Large trees in close proximity to a garden are objectionable, because they not only shade but impoverish the soil by their feeding roots. If the shade cannot be avoided, a few vegetables will do fairly well, such as Brussels sprouts, brocolli, endive, radish and rhubarb.

Corn and Lima beans planted in rows running north and south will not shade smaller vegetables. A frame of from two to six sash is a valuable addition and can be kept in constant use through the season. Early vegetables can be started and very much advanced for planting to open ground when weather will permit, but close attention is needed when it is in operation. It must be ventilated and kept in growing condition; it also permits growing pansies and violets.

DISCUSSION.

MR. HARGETT: How would you plant corn—north and south or east and west?

MR. THILOW: Sugar corn is usually planted in rows, allowing room between rows to cultivate one way—that is, north and south. Corn four feet apart can be planted any way at all.

Mr. Hargett: Why north and south?

Mr. Thilow: Because the sun passes directly over each row.

Mr. Jones: What variety of cauliflower is grown under glass?

Mr. Thilow: The only variety grown under glass is the extra early "Snowball" or "Snowstorm" type.

Question: What causes rust on the wax bean?

Mr. Thilow: On account of the non-evaporation of moisture, which causes the generating of four, five, or more varieties of fungus. Beans should be planted in ridges, or rather elevated and far enough apart, so that when they grow you can keep ridging. Sometimes this rust is produced by handling beans while wet. Beans should be handled while they are dry.

Mr. Little: What varieties of lettuce do you use for forcing?

Mr. Thilow: Two varieties—"Boston Market" and "Big Boston." The lettuce that brings the greatest price in September or October, when lettuce is scarce, is the "Big Boston" variety grown on open ground.

MARYLAND AGRICULTURAL COLLEGE.

President R. W. Silvester.

Ladies and Gentlemen of the State Horticultural Society, and Welcome Guests:

Your worthy Secretary has seen fit to place me upon your program to-day and to assign me a subject which comes very near to being my hobby— *The Maryland Agricultural College."*

When a man is called upon to speak upon his *hobby,* may the Lord have mercy upon his *audience!* It is impossible for him to realize that there may be those present who are not consumed by the desire to be internally, externally and eternally edified by a presentation of some phase of the crank's conceptions of his favorite theme. Be this as it may, you have me before you at this meeting, and I will try to be *merciful.*

The Maryland Agricultural College is a corporation created by the State for the instruction of the youth of Maryland in technical knowledge, and, in addition, to maintain a department for scientific investigation.

It was the first of its kind established in the western hemisphere. The fathers of this movement were the public-spirited, cultured citizens of the soil, who were wiser than the men of their generation. Their act was a prophecy of the future, and their charter foretold the coming of an epoch, which is even now casting its benign influence over the agricultural interests of every State and Territory in the United States.

The work of these men was of a pioneer character—the introduction of a new claimant for professional life in the affairs of men.

Such a claimant could not be recognized until the laws of evolution established the right to the claim.

In the opening of the twentieth century, no one questions the fact that professional life marks the work of every department of technical activity in the affairs of men. The test for professional life, in technical affairs, has been well given in the words:

"A well-trained *head* guiding a well-trained *hand* under the moderating influence of a *well-trained heart.*"

We can well accept this definition until a better is given.

It is well recognized by a general consensus of opinion that our agricultural and mechanical colleges are training institutions for professional life. Let us consider them in their relation to their responsibilities to their constituents:

First. Note that these institutions are not *agricultural* alone. Instruction in engineering (civil, mechanical, electrical and hydraulic) must be provided for in the curriculum of all institutions commonly known as the Land Grant Colleges.

It is so specified in the organic law which creates these institutions.

With this preface, I feel it to be my duty to report to this intelligent body of men and women the present status of your College, and something of its progress during the past fourteen (14) years.

The number of students of all grades during the scholastic year of 1905 and 1906 was 190. The number of scholastic matriculates for the present year to this date is 195. The short course students will take the number beyond 200.

Interest in the *Agricultural Course* is growing with each year that is added to the history of your institution. The four-year course in Agriculture has, in the past fourteen years, turned out many men who have taken prominent places as investigators and teachers in the Bureaus of the Department of Agriculture in Washington, as well as in the experiment stations of the country and the State Boards of Agriculture in many of the States.

The short-course students go back to the farms, as do many of those who are unable to continue their course for the lack of means.

A recent canvass of the latter class shows as many as 55 per cent still at agricultural work in rural sections, many of them doing excellent work.

In the Departments of Engineering, the men who graduate secure positions of emolument and trust *at once*.

GROWTH OF THE INSTITUTION.

First: The average attendance for the fifteen years preceding 1892 was 50.

Second: The average attendance for the fifteen years following 1892 has been 165—an increase of over 200 per cent.

Third: Value of property in 1897 was $68,600.

Fourth: Value of property in 1906 is $198,000—an increase of over 200 per cent.

Fifth: The value of facilities for instruction in 1892 was $8,000.

Sixth: The value of facilities for instruction in 1906 is $56,000—an increase of 600 per cent.

Seventh: Money appropriated by State for buildings since 1892, $113,866.

Eighth: The value of buildings erected since 1892 is $134,189.74.

This bespeaks good business management on the part of the Governing Board of your institution.

Ninth: The Board has not been content with the purely academic development of the *Agricultural* interests of the State.

In 1892, not one State statute was found among the laws of Maryland which embodied in its provisions any consideration for the development of your College.

This was an invidious distinction which soon attracted the attention of those who had consecrated their powers of body and mind to the development of Agriculture, the great basic industry of the State!

WHAT HAS BEEN THE RECORD?

1. Passage of a Fertilizer Law.
2. Passage of an Animal Food Law, each of which has saved the farmers of the State thousands of dollars and at the same time raised the standard of intelligence many fold among the progressive farmers of the State.

3. The passage of the State Horticultural Law gave help to the panic-stricken horticulturists of the State. The San José Scale had crossed the continent and found lodgment in the East. This, with the Yellows, seemed to doom the orchardists' interests of the State, as well as the great nursery industry.

The scientific horticulturist, entomologist, and pathologist girded themselves for the fray and soon the Anglo-Saxon manhood of Maryland asserted itself, clothed with the teachings of Science, and these pests passed under the control of those horticulturists who directed their work by the canons of scientific horticulture.

Hundreds of orchardists and nurserymen to-day are reaping satisfactory rewards of their labor, and are satisfied that they are in control of the situation.

4. The Farmers' Institute Law has been most valuable in disseminating the accumulated stores of information resulting from experiment station investigations, as well as the opportunities which the Academic Departments of the College have to offer to young men of the State desiring to fit themselves for the complex vocation of intelligent agricultural pursuits.

The policy of the Board of Directors of your College has been to urge upon the lawmakers of the State the importance of placing all State work of a scientific character under the control of educational institutions, maintaining departments of these special branches of science.

The growth of this sentiment has been phenomenal in the past ten years! Your College administers alone the affairs of four of these departments at this time, and, in co-operation with the Johns Hopkins University, three others, as follows:

State Geologic Survey,
State Highway Survey,
State Forestry Commission.

Any man conversant with the operation of these departments and the invaluable results which have accrued to the State from the scientific administration of these departments of State work, must be convinced that our colleges and universities are destined more and more to become important factors in the practical affairs of everyday life.

It is an axiom of modern life that all of the best in the phenomenal practical development among the affairs of men is closely linked to some great underlying scientific principle.

Hence, scientific institutions must be the landmarks of all modern development.

Let us appreciate this fact in our work and incorporate it in our undertakings.

INDUSTRIAL WORK AMONG COLLEGE STUDENTS.

A splendid omen of the times is a disposition of young men to offer service for the opportunity of securing an education for a life's work. It has been my pleasure to note this growing sentiment in Maryland's young manhood.

In your College to-day there are twenty young men who are giving $150 worth of service as a credit on the annual charge of $200 for the privileges of the Academic Course. They are taught that a dollar's worth of *honest service* is a currency more valued in your institution than any metallic dollar which the wit of man can devise, and equally true that a counterfeit service is more despicable than any counterfeit medium of exchange which the obliquity of the human heart can suggest!

Our boys are appreciating these sentiments. On the grounds—in the dining room—in the halls—in the laundry—in the fields and orchards—they may be found, giving honest service in payment for the blessings of an education.

Is there a man or a woman here who does not believe that a boy completing his college course in such a manner has already a guarantee of a successful life?

These are some of the features in your College's progress in the past fourteen years. This summons from the past to yield up its history is not made for other purpose than to form a basis for future plans. This work of the College has been accomplished, although attended by many difficulties, the chief of which has been a very inadequate support by the State. That you may have some idea of how true this statement is, the following figures are presented for your consideration:

The average sum paid by the States and Territories to their colleges and their branches is $35,884 annually for maintenance. This does not include buildings.

Maryland has paid her College for the same purpose $9,000 annually during the past fourteen years!

Those who have had the responsibility of maintaining a respectable showing in such a company, under such conditions, cannot have said to have been always free from the harrowing torments of an anxious mind.

The future, however, holds out more pleasing prospects. Academic policies for the future are well defined. Every department of academic work is well organized and well manned. The work is yielding results of a character which speaks for itself in the men who are annually turned out to take their places in the world's work.

It should not be conceived that a college man upon graduation has more than *commenced* his life's work. The foundation only has been laid, and the erection of the superstructure of his life will now depend upon his powers of application—his adherence to the course to which he has consecrated the best faculties of his head, heart and body. This is a sentiment which all connected with the College strive to inculcate in the minds and hearts of our student body.

Your Agricultural College has done much work in advancing the new gospel of better conditions for all living in rural environments. A public sentiment must be aroused to this accomplishment, which, like Banquo's ghost, refuses to be buried. It must always be found in evidence whenever a meeting of a public character is assembled in the country as well as around the family fireside.

This public sentiment should stand for a clearer insight concerning—

First: The scientific principles of their profession.

Second: Better home surroundings.

Third: Better rural schools and homes.

Fourth: Good roads.

Fifth: A keener appreciation of the duties and responsibilities of citizenship, and

Sixth: To fully realize the importance of co-operative effort.

For these six distinct essentials to a successful rural life your College stands. The ideal condition of country life can never be attained until by a united effort of the residents of the country these six factors are incorporated in every rural community as a demand upon the lawmakers of the State.

Your present "one-room" school house, having six or seven grades, with only one teacher for fifty pupils, is a condition which must be eliminated in the near future, if you are to be true to the children of your homes.

It has been well said that the success of a new movement in public affairs is not so much the rapidity of its motion as it is its persistence in being headed to an ideal, without wavering or shadow of turning.

Over the whole of the United States to-day there is a disposition to go back to the *Soil.* This prophesies the greatness of your country. It foretells a new earth for the coming generation of boys and girls! Pleasures at present unknown, and profits untold, are the rewards to be reaped by those who have decided to consecrate their energies to the development of this *New Agriculture.*

We are at the beginning of an era of wonderful import in the annals of agricultural science—an era in which experiment, foresight and skill, invention and learning, will transmute as never before the labor bestowed upon the land into competency, health, happiness and length of days. An era of progress and development as wonderful as any that has hitherto astounded the world in the departments of investigation and endeavor is at hand for Agriculture. This profession will now take its stand side by side with other professions, for it is built upon the great fundamental principles which lead to seedtime and harvest in every department of agricultural life.

It is a most reasonable prophecy that the twentieth century, before it has reached the central point of its existence, will witness an Agriculture new to the present generation—an Agriculture which will consider that the girls, as well as the boys, who expect to become the makers of rural homes will need a good training in rural matters, to the end that they may be qualified to direct the affairs of the rural home on a basis which will be the embodiment of the scientific principles upon which every good home must rest.

Listen to the prophetic words of our great President bearing upon this question in his recent message to Congress. He wisely says:

> It is a mere truism to say that no growth of cities, no growth of wealth, no industrial development can atone for any falling off in the character and standing of the farming population. During the last few decades this fact has been recognized with ever-increasing clearness. There is no longer any failure to realize that farming, at least in certain branches, must become a technical and scientific profession. This means that there must be open to farmers the chance for technical and scientific training, not theoretical merely but of the most severely practical type. The farmer represents a peculiarly high type of American citizenship, and he must have the same chance to rise and develop as other American citizens have. Moreover, it is exactly as true of the farmer as it is of the business man and the wage-worker, that the ultimate success of the nation of which he forms a part must be founded not alone on material prosperity but upon high moral, mental and physical development. This education of the farmer—self-education by preference, but also education from the outside, as with all other men—is peculiarly necessary here in the

United States, where the frontier conditions even in the newest states have now nearly vanished, where there must be a substitution of a more intensive system of cultivation for the old wasteful farm management, and where there must be a better business organization among the farmers themselves.

THE FARMER'S EDUCATION.

Several factors must co-operate in the improvement of the farmer's condition. He must have the chance to be educated in the widest possible sense—in the sense which keeps ever in view the intimate relationship between the theory of education and the facts of life. In all education we should widen our aims. It is a good thing to produce a certain number of trained scholars and students, but the education superintended by the State must seek rather to produce a hundred good citizens than merely one scholar, and it must be turned now and then from the class book to the study of the great book of nature itself. This is especially true of the farmer, as has been pointed out again and again by all observers most competent to pass practical judgment on the problems of our country life. All students now realize that education must seek to train the executive powers of young people and to confer more real significance upon the phrase "dignity of labor," and to prepare the pupils so that, in addition to each developing in the highest degree his individual capacity for work, they may together help create a right public opinion, and show in many ways social and co-operative spirit. Organization has become necessary in the business world; and it has accomplished much for good in the world of labor. It is no less necessary for farmers. Such a movement as the grange movement is good in itself and is capable of a well-nigh infinite further extension for good so long as it is kept to its own legitimate business. The benefits to be derived by the association of farmers for mutual advantage are partly economic and partly sociologic, the whole being profoundly philosophic and true.

Now, my friends, who without regard to political affiliations, does not recognize this as the gospel of the new Agrictulture? Who is not ready to respond to the clarion notes of this bugle call to duty? Who is not ready to enlist in the ranks for the consummation of these high ideals for the future of progressive Agriculture?

If one blast upon his bugle horn was worth a thousand men to the Scottish chieftain, when the call was for war, why should not this bugle call to victories of *peace* by a chieftain in American life be responded to with equal alacrity in times of peace by millions of men, women and children?

It will be. It only remains to be seen whether you and I will be enlisted in these ranks.

This meeting, this exhibit, tells of the coming of a new Agriculture in American life. You are to be congratulated upon the progressive spirit here demonstrated by the intelligent horticulturists and florists of the State of Maryland. These men and women are occupying an advanced position in the procession which is surely moving on to a higher plane of living, thinking and acting on the farm. They are the pioneers in this great movement, and the light of their torches of intelligence is casting its beams upon many who are weary and despondent, bidding them to be of good cheer, for the future is full of hope.

REPORT OF COUNTY VICE-PRESIDENTS.

ALLEGANY COUNTY.

Report of R. H. Gordon, *Cumberland.*

Ladies and Gentlemen:

Your Vice-President for Allegany county reports that the year 1906 was not a very profitable year, in a horticultural way, for Allegany county.

There was a very large apple crop, but owing to the wet conditions prevailing during the year, it was susceptible to numerous vicissitudes. In the first place, the insects and bugs developed under the favorable moist conditions, did a great deal of damage, stinging the fruit and depositing their eggs, thus injuring a great deal of it. Owing to the cloudy and rainy weather, the crop did not receive sunlight enough to properly mature it, and the necessary chemical action did not take place within the fruit to make it of the best quality. Finally a severe frost came in many parts of the county, which destroyed many thousands of bushels. This frost came after very rainy weather, long before it was expected, and before any slight frosts were had at all, so that it was very destructive upon the apple crop.

The peach crop suffered for the same reasons, and was subject to speedy rot, while in transportation. It lacked sweetness and flavor.

The potatoes rotted in the ground, and this crop was therefore light.

Many fields of oats were cut and shocked, only to be abandoned in the field, while many ricks of oats and wheat sprouted on the outside, before they could be thrashed.

The tomato crop was very fine, and the quickly-growing vegetables, requiring lots of moisture, were very good.

Our county possesses some very fine limestone valleys, suitable for all kinds of crops adapted to this latitude, but many of the fields are being allowed to grow up with bushes and trees, owing to the fact that it is almost impossible to obtain labor on the farm. The prevailing wages for labor in Allegany county, for the past year have been, for ordinary labor, $1.75 per day. This price is almost prohibitive, at the price of farm products realized by the farmer. The profits are nearly all absorbed by the middlemen and merchants.

The manufacturing industries in Allegany county, and the work in the mines are so attractive and remunerative to labor, that it is almost impossible to get labor, even at the high price above mentioned.

All the farm products of Allegany county would not be sufficient to feed one-fifth of the population, if we had to depend upon our home products. There is a fine opening, in my judgment, for experienced truckers in the valleys near Cumberland, provided they can make arrangements for sufficient labor, and Cumberland and the mining region affords a most excellent market.

The Wabash Railroad now skirts the southern end of the county, from Cumberland to the Washington county line, and along this line there are thousands of acres of lands which can be purchased at very low prices, from $2.00 to $5.00 per acre, suitable for fruit-growing.

In West Virginia, south of the Potomac, on the same kind of lands, large orchards have been established, and are now bringing in immense revenue to their owners.

The truth is that Allegany county is so rich in mineral resources that proper attention has not been paid to our horticultural advantages.

I regret exceedingly that I could not be present at the meeting in December, owing to business engagements, but hope that next year nothing will prevent my participation in your proceedings.

ANNE ARUNDEL COUNTY.

REPORT OF J. S. LINTHICUM, *Welhams.*

Ladies and Gentlemen:

In making my annual report to the Maryland State Horticultural Society, I will state that the past season has been a very peculiar one. Early in the spring we had considerable wet weather, which naturally caused the truckers of the section to be backward in their spring work.

About the second week in May we had a severe frost which killed nearly everything in the fields. I saw thousands of early tomatoes and canteloupes—which had been started in hot beds—destroyed. Strawberries were greatly injured, especially in low bottom lands. I may say that 50 per cent were killed and the crops were poor in quality and the prices only fair. June peas, which we raise extensively, sold very good, the quality being up to the average. Blackberries and gooseberries sold very well. Raspberries, both red and black, seemed to be a failure, the reds being troubled with some disease of the root, and the blacks seeming to die more than in previous years.

Canteloupes and watermelons are largely grown and a fair price was realized by those having a good quality of fruit. The late tomato crop, which is used by the canning establishments of Baltimore, paid well, the crop being short caused the prices to be high, some being sold as high at $1.15 per bushel, and quite a lot sold from 90 cents to $1.05 per bushel—60 pounds to the bushel—while early in the season they did not sell as high as these prices. Sweet potatoes seem to be grown more extensively every year by our truckers, the yield being a fair one but the prices very low.

The peach and apple crops were a failure, owing to the late frosts, many orchards having no fruit at all. We have numerous pear orchards, chiefly Kieffer, the quality this year, however, not being up to the standard, owing to a rust or smut of some kind. I am of the opinion that this might be remedied by spraying with Bordeaux mixture. I sprayed a small orchard of 250 Kieffer pear trees with it and it gave excellent results, this fruit being free from rust, and commanding a price of 25 cents per 4-8 basket in the wholesale market of Baltimore, sold in wagon loads of from 80 to 100 baskets.

I am a firm believer in spraying and think more of it should be done. Much of it is being done for San José scale with a solution of lime-sulphur-salt, which is giving excellent results when properly used.

In spite of the many obstacles with which we have to contend in our work, our truckers and fruit-growers, as a whole, seem to be in a prosperous condition, and, in our section, the interest in the State Horticultural Society is increasing.

BALTIMORE COUNTY.

REPORT OF RICHARD VINCENT, *White Marsh.*

Mr. President and Members of The Maryland State Horticultural Society:

Once more has the year rolled around, and once more is the right-hand of friendship extended to those who really have the true interest in all that makes life worth living—the growers of fruit, flowers, vegetables, grain, etc.

Mr. President, I have very few changes to report different from my last report of a year ago, except a growing interest with all progressive agriculturists in the doings of our Society. I believe the time will come, and that shortly, when a man will be ashamed to acknowledge he is not a member, as I know of plenty to-day who talk, and in its interest.

Baltimore county is rapidly changing its character as a producer, and is fast becoming more a consumer, as our lands are fast being taken up, all through the north, east, and western sections, for suburban homes; while the southern and along the borders of the Patapsco is being taken up for large manufacturing plants. Farther east again, along the rivers and creeks that cut up that section into various points, the summer resorts are using large quantities of land for pleasure grounds.

But at present this does not seem to lower the quantities of marketing produced, as the more limited the land the more intensive the culture, thus producing on a limited space what was formerly produced on a larger area, requiring at times more brain and less brawn, and I think that the knowledge gained at our meetings are producing good fruit.

The buildings of the many suburban homes and the laying out of the many beautiful gardens and grounds has brought many a skilled gardener to the front, and I am glad to say that those of Baltimore county are the equals of any in existence, as by their works shall you know them, so can it be that Baltimore county is and will be one of the finest and brightest spots on God's earth.

Our gardeners and florists are meeting the needs and necessities for this onward work, thereby increasing their business, both in size of places, buildings, etc.

There has been about the average crop of vegetables, etc., marketed this season; I do not think it necessary at this time to give statistics of same. Hoping that our meeting here at this time may be successful and that we may go home much benefited thereby.

CALVERT COUNTY.

REPORT OF FRANK O. SMITH, *Dunkirk*.

Ladies and Gentlemen:

The season of 1906 will long be remembered by fruit-growers in Calvert county as a disastrous one from a financial standpoint. The strawberry, which is a limited one in our section, was injured by drouth in May; later on the peach crop, which promised the best in years, was almost a total loss from excessive rains, which also injured the apple crop; so the season as a whole left an impress on the growers which it will take time to efface. The planting of peach orchards is going on to some extent, but much smaller orchards are planted, since it is *imperative* that spraying must be done to secure any degree of success. The San José scale has, I think, been kept in bounds by spraying, which has been done systematically and, I think, with good results. While, of course, there are still places where scale exists, it has not spread as in many cases. I do not know of a case of yellows. Pears yielded heavily the past season, but, like other things that are overdone, failed to show any profit, and, in several instances, were ground up and made into cider. Before I conclude I would call the attention of any one wishing fruit land, to any section of Calvert county, all of which is specially adapted to fruits and vegetables: in quality and flavor being unexcelled in any other part of the State, and I think I can say, as to flavor, not in the United States. Land can be purchased at reasonable prices that will give abundant yield with but little attention. But, of course, the better the attention, the better and more fruit. What we need most is railroad facilities for shipment. With this supplied, our section would soon develop into a noted fruit section. "A word to the wise is sufficient." With the expected location of a dry-dock and Naval Station at Solomons Island, attracting as it must, population for the various industries that will spring up, the demand for fruits of all kinds will exist, and the now cheap lands will be taken up, never again to be on such a low basis of value.

CAROLINE COUNTY.

Report of J. Spencer Lapham, *Goldsboro.*

Ladies and Gentlemen:

Nineteen hundred and six started off with bright prospects for all kinds of fruits in Caroline county. A heavy frost May 11th ruined the major portion of the strawberry crop, but peaches were uninjured.

The strawberries remaining were further shortened by drouth, and the crop was a very light one. High prices ruled and the Ridgeley crop, handled by the Association there, was sold on track at high prices.

From May 11th to June 1st there was no rain at all, but after this we had too much, particularly in August.

Early apples showed large size and poor keeping quality, but sold well.

Peaches were poor and rotted badly. Prices fluctuated rather wildly, but generally kept at rather a high level. The yield was generally disappointing. Trees were all full and in some cases had been thinned.

The tomato market also was unsettled, prices at times being unusually high, and again down as low as 7 or 8 cents a basket.

If weather conditions had not reduced Caroline's crop materially, it would have been impossible to have taken care of it at any price for a part of the season.

Kieffer pears proved a fairly good crop for the farmers, who sold promptly on the first rise at about 12 cents a basket. For the shippers, however, they proved the worst kind of a sticker. A great proportion of the bulk shipments went West, and these competed in train loads with the Ben Davis apples of Missouri and Illinois, also in bulk.

If there are such things as peddlers' associations in our cities of the Middle West, and their records could be searched for 1906, very large dividends would doubtless show from the handling of Kieffers, for it was a buyers' market nearly all the time, and the consumption was large.

Notwithsanding these unfavorable conditions, Caroline county farmers, as a rule, are prosperous. Canteloupes, sweet potatoes, grain, poultry, holly wreaths, and in fact almost every product which can be produced on a farm in this climate, is produced and marketed in Caroline.

Very large plantings of apple trees are being made, although not anywhere near to the extent Kent county, Delaware, is planting them.

Fruit men predict boldly that the time will come when the Roman Beauties, Winesaps and Grimes Golden of the Eastern Shore will compete sharply with the Ben Davis and York Imperial of the South and West and the Baldwin of the North.

CARROLL COUNTY.

REPORT OF H. R. FUSS, *Union Bridge.*

Ladies and Gentlemen:

The horticultural interests of Carroll county have been anything but encouraging to the growers the past season—strawberries almost a total failure owing to late frosts; raspberries a full crop; blackberries also; cherries, sour, plentiful; sweet, scarce and badly stung by Curculio; peaches scarce and rotted badly; yellows and scale running rampant, with very little effort made to control them. Apples usually grown for home consumption, few for market. In these we find Yellow Transparent, Rambo, Smokehouse, Dominie, Grimes Golden, York Imperial, Stayman's Winesap, Lankford and Doctor giving good satisfaction. In peaches, we have been planting too many varieties, some of which have not paid first cost. I find Mt. Rose, Stump the World, Fox Seedling, Elberta, Crawford Late and Chair's Choice the most profitable and satisfactory to use. Triumph, Waddell Early, Toledo, St. Clair, Chinese Cling, Fitzgerald and Draconess have been very unsatisfactory to use.

In plums, we find Red June and Burbank giving good satisfaction, good bearers, and not rotting as quickly as some others.

Where spraying for scale has been done, we find the lime-sulphur-salt very satisfactory when thoroughly applied.

CECIL COUNTY.

REPORT OF GEO. BALDERSTON, *Colora.*

Ladies and Gentlemen:

The horticultural interests in this county have not materially changed since last report, at least. I have not seen nor learned of any special increase in the acreage that is now being devoted to fruit or garden crops, that come especially under this heading. The canning industry is still an important one, but its operations have been confined to corn and tomatoes and, at least, one of the corn canners did not run his place, or have any planted for his use because of the unsatisfactory prices obtained for the pack of the previous year.

The tomato crop was a fairly good one, and some growers realized a satisfactory return, but this crop seems to do better on some soils than others, and will not produce a uniform yield when all other things seem equal.

I know of no general packing house that begins on the earliest vegetables and runs throughout the season, ending with apples. One end of this county is so blessed with perennial springs of running water, and will grow such good crops of natural or cultivated grasses for the use of cattle, that it makes our locality pre-eminently the home of the dairy.

There should be, and is, no insuperable obstacle between the care of cattle and poultry and ordinary horticultural pursuits, but those of us who have tried it know that they must be kept in separate and distinct enclosures, and have witnessed the disastrous results of a brief incursion of even one favorite family cow in the home garden, and know how a flock of Plymouth Rocks relish a breakfast of peas, cabbage or lettuce.

The dairyman enjoys the fruits and vegetables as much as any one else. I have stated that he does not always have them where money-getting is the primary object, but, if any one under whose eye this may chance to come, wants a home free from malaria, with a spring of soft water in every field on his farm, and who enjoys the prospect of seeing his herd of Jerseys browsing contentedly on his greengrass pasture, let him come to old Cecil, and we can accommodate him. Or, if he be a manufacturer, we yet have water powers running to waste and will, in the near future, show him one, second only to Niagara, harnessed to the wheels of civilization.

The past has not been a full fruit season with us, but, beginning with the strawberries, there has been an ample supply for home use. We did have a frost that caught our trees when just leafing out, and the grapes in many localities or when unsheltered by buildings were badly seared by it, and the blossom buds destroyed. This had the effect of thinning the fruit, as the new growth, which comes from the remaining dormant buds, produced enough clusters to make a crop.

Some effect on the crop of Spanish chestnut, as well as on our native species that bloom early, was noticed. Large trees that had their heads above the frost line escaped, but the damages to the young growth on all small trees, as well as our chinquapin bushes, cut off the bloom with it, so that they produced but little fruit.

Raspberries and blackberries that bloom later were not affected and made a better crop than for several years past. The first bloom of the strawberries was all blackened, so that the crop was later in ripening, but there was no spring drouth to shorten the subsequent crop.

By request, I will notice some of the fruit that has done well in this locality during the past fifty years. Some of these are not now to be found in the lists grown by nurserymen, having been discarded mainly because not the most symmetrical or vigorous growers, or else they are not the most prolific, but when quality is what is wanted they are not yet superseded. Taking them in the order of ripening, I may name the Summer Pearmain for its excellent quality as a dessert fruit. The tree is a slow grower but a regular bearer, and can be top-grafted into a large tree.

Benoni is one of the best-flavored apples, and not to be neglected because below the average in size. It is a good grower and productive. Of the same season is the Gravenstein, that is not as much planted as its merits warrant, for there is no fruit then ripe that can excel it in cooking qualities and, when it is to be had, no others are desired. It is also very desirable to eat raw when ripe.

Cornell or Cornell's Fancy is a Pennsylvania apple of most beautiful appearance, excellent flavor and good selling qualities as is the preceding, and these two apples can be sold when there is a full crop of peaches in the market.

Our old Smokehouse apple follows as a standby for the housewife for pies or apple sauce. Do you desire big apples, then try the Fallowater. Here the trees are not long-lived. Our Holland Pippin are near the same in size, of golden color when fully ripe, and most excellent. The Hays or English Redstreak, when fully ripe, is a most excellent table fruit, and good in every way.

One we have valued for many years on its merits as a table fruit is the Pleasant Valley Pippin. It is not of large size, and because of its large core not desirable for cooking. For the latter use, tart apples are generally desired, and for this reason some of those already mentioned are often discarded.

Of apples of Northern origin that may be very successfully grown in New York State we have tried many, only to reject them because not adapted to our needs. The Northern Spy is most deceptive. Even the Baldwin, though it bears well and is of most excellent quality when it ripens on the tree, is so liable to fall or be blown off so quickly after it becomes to maturity that it cannot be depended on here for winter use. Rhode Island Greening is like it in this particular, but a most excellent cooking apple when we can get it. The Roxbury Russet has excellent features to recommend it, but will not stay with us longer than those noted. Many other old suts we have discarded entirely because of their shy bearing qualities or the trees may now be very poor growers. Among the newer varieties I find Stayman and Mammoth Black Twig to resemble each other, and both promise well. The Royal Limber Twig is of good size and shape and can be kept all winter with ordinary care, and these last three will all become mellow and a desirable quality as a table fruit.

The great York Imperial is not yet superseded, but its toughness is against it. Lankford resembles it in many ways, and I rate it as of better quality.

Of the many varieties I have handled or grown, we yet lack the variety that we can let stay on the tree until cold weather comes to keep it, with the assurance that it will retain its soundness until late in the winter when there will be a good local demand for it.

I should mention the Smith's Cider as one of our most profitable varieties, if not the very heaviest cropper that we can grow. There is none that will respond to generous feeding and judicious pruning, and show it in the quality and quantity of the yield more certainly than this one. But these apples, from the inside of overloaded trees, while they are the best keepers, are so deficient in goodness, and resemble the Ben Davis so much in their tendency to dry up and lose all their flavor, that they are nearly worthless.

The problem of the scale now confronts us, and with the best intentions and the most approved apparatus for spraying at hand, it is an open question what the condition of our orchards will be a few years hence. The scourge travels like a pestilence, showing its depredations in isolated places and leaving intervening territory untouched.

The Japan Plums seem to be its favorite food, and it is found on these, when away from any recent planting which could have brought it from a nursery. We have enough wild fruit trees and Osage hedges to furnish a harbor for it for years to come, if all our bearing orchards are thoroughly and regularly treated and, in the case of old and large orchards, this is no easy matter.

It looks now as though the business of fruit culture may be confined to a favored few, in the near future, who can devote their whole energies to it.

CHARLES COUNTY.

REPORT OF WALTER H. GRAY, *Port Tobacco.*

Ladies and Gentlemen:

First, I have endeavored to aid the Society in every way possible by furnishing the Secretary with the names of all those interested in horticulture, and in speaking to friends and neighbors in regard to becoming members of the Society, and by attending the meeting in the summer at Berlin and Ocean City.

Secondly, by soliciting exhibitors for the annual meeting in Baltimore the 5th and 6th of December, 1906, and posting notices concerning such meeting and all other work along the line.

There is not much fruit grown in Charles county, though there is a great opportunity for such an industry. The soil is naturally adapted to the growing of fruits, and the fruit grown is of good color and flavor. The apple succeeds well. Those varieties succeeding best are York Imperial, Winesap, Mammoth Black Twig, Baldwin, Smith's Cider, and Ben Davis of the winter varieties, and Yellow Transparent, Early Harvest, Red Astrachan and Strawberry. The Japanese plum succeeds finely. The Kieffer pear develops well, grows to large size and immense yield. The Bartlett pear has also succeeded quite well here.

The peaches that seem to suceed best here are the Elberta, Mt. Rose, Carman, Stump, Heath Cling, Amsden June and the Delaware. Others may succeed well, but those varieties have come more particularly under my observation.

All varieties of grapes thrive—in fact, all the small fruits seem to like our soil, which is very susceptible of improvement.

As to diseases, some sections of the county have been affected by the scale. but through the central part of the county we have escaped.

The excessive rainy season of the year caused much of the fruit to rot, especially the peach crop. There was not more than two-thirds of the crop that came to maturity, but the prices received were good. Not many apples came to maturity, as most of the fruit fell prematurely, owing to the late frosts. Grapes were also injured by frosts and rain, quite an unusual occurrence in this section.

All sorts of vegetables succeed well here, the soil being a naturally truck growing soil.

More sellers and more fruits is the great need of Charles county.

DORCHESTER COUNTY.

REPORT OF W. G. DAWSON, *Cambridge.*

Ladies and Gentlemen:

An excessively rainy season did great damage to the 1906 fruit crop. However, as a similar condition may not recur in very many years, the crop failure of one year is not sufficient to check the steady, healthy progress of horticulture in this State.

The setting of peach orchards continues, not in large areas, but in such quantities feel sure we can care for them in the most approved manner. The varieties that are chiefly selected are: Elberta, Crawford Late, Chair's Choice and Reeves. In small numbers are found Belle of Georgia, Stump, Delaware, Champion, Frances and White Heath Cling.

With the knowledge of the proper care of apple trees, a steady, healthy increase of this fruit is noticeable. Among the profitable early varieties, the Yellow Transparent, Strawberry, Red Astrachan and Fourth of July will be the leaders. Among the late fruit are principally found the Winesap, Stayman Winesap, York Imperial and Ben Davis, but there seems to be good reason for adding to this list Nero, Rome Beauty, Black Twig, Jonathan, etc.

The cherry finds congenial conditions here, especially nearby to the salt water courses. The several varieties of the Bigarreau cherries come to perfection and are profitable, the only serious drawback being the birds which are often very destructive, and require many spraying of shot to save the fruit.

Pears do well, with proper care, though Kieffer has received more attention than other and better varieties. As long as Kieffer orchards are profitable this condition will continue.

With small fruits there does not appear to be much increase.

There can be no question as to the suitability of the soil and climatic conditions for strawberries and blackberries, raspberries, gooseberries, and currants. All of them produce well in quantity and quality. The check is found in the unfavorable shipping facilities, and important matter belonging to your Transportation Committee. It is earnestly hoped this Society, through said committee, will take up all such questions in a systematic and business-like way.

Fighting the San José scale is going steadily on, and good results are noted in all instances where the work is properly performed. The Lime-Sulphur wash is almost exclusively used for the scale. All fruit-growers realize that the battle against the scale must be continued if good fruit is desired.

The Tent Caterpillar is being strongly attacked with the pump, and its depredations are being annuallly reduced. But this pest is liable to remain with us until the numerous wild cherry trees are cut out, or, else, they too are sprayed in time to kill out the worms, and cut off this annual source of supply for the apple trees.

The Canteloupe Blight is holding its own, if not gaining ground year by year. It was very bad this year.

FREDERICK COUNTY.

REPORT OF D. H. HARGETT, *Frederick*.

Mr. President, Ladies and Gentlemen:

Frederick county, Maryland, is so well known throughout the world that it seems like a waste of time for me to attempt to make any kind of report on her. If you speak of her rivers meandering down the valleys, filled with fish, you delight the fisherman. If you speak of her mountains and valleys, the summer boarder and the huntsman alike wreaths with smiles. If you speak of her roads radiating in all directions from the county-seat, the autoist replies, "No, thank you, madam's there." If you speak of industries, the knowing ones will tell you their products are the finest and best. If you speak of her banks you will find among their number—12 or 15—one of the citizens of Frederick, standing first on the roll of honor in the State. If you speak of her cereal wealth, she stands third in the United States. If you speak of her products you will find them as varied and to as high a state of perfection as her climate will permit. If you speak of her religion, we show you its results in a $50,000 Y. M. C. A. building. If you ask about her patriotism, we point you, like the obeisance made to Joseph's sheaf of old, to the Nation's obeisance consciously or unconsciously made to the genius of Frederick county's son, author of the Star Spangled Banner. Ask of her warriors, and we answer, "Who gave prestige to the modern Navy at the Bay of Santiago," and the justice-loving public cries "Admiral Schley, Admiral Schley!"

How about the judiciary? The scales of justice were never held with more equipoise than they are now held by the hands of the Chief Justice of the Court of Appeals of Maryland, Judge James McSherry.

Ask about her soil, and the nurseryman will tell you it will grow to perfection all fruits that will grow in this climate, from strawberries to persimmons. How about corn? The largest corn-canning output of any one county in the United States. How about labor? Peace and order prevail. How about schools? They are of the very best. The races are separated. Separate schools for white and black; the colored man does not desire to attend the white schools, and the white man furthers his gratification.

How about public sentiment on National affairs? In schools they are with the Californians. We have no shooting galleries in the schools; we rather suggest peaceful habits of life and teach the children that *labor makes the corn shoot.* How about insect pests on fruit? Abundant! The baneful effect of San José scale is felt everywhere; unless the law is more rigidly enforced by our State officials, enormous loss will ensue. Hedge fences must go; they are the propagation-beds for scale, the menace of our flourishing orchards. Legislate against the hedge fence—they are the pestilence of horticulture.

I invite you all to come to Frederick county, Maryland, and, like the Queen of old, you will exclaim, "The half has not been told!"

GARRETT COUNTY.

REPORT OF W. McCULLOCH BROWN, *Oakland.*

PROFIT IN APPLES.

Ladies and Gentlemen:

Since the days of the Garden of Eden, the Apple has been one of the staples of the human diet, and the fruit of history and legend. The wide area over which it grows, its variety, flavor and beauty, as well as its relative nutritive value, make it a very King of Fruits.

In America every farmer has an orchard, but it has been all too common when the trees were planted, to leave them to themselves, to grow as they saw fit. When a crop was borne, the fruit was shaken from the trees, and when taken to the market, low prices were obtained owing to the bruised and unsalable condition of the fruit. In recent years a change has come, consumers want the best, and when they get that, are willing to pay the price. This and a large and growing export trade to Europe, has led to more care in setting out an orchard, and has modernized methods of cultivation, handling and marketing.

The first point to be considered in setting out an orchard is location. This is preferably upon rolling ground, or upon a hillside where there is good "air drainage." Then the character of the soil adapted to the apple or apples which it is desired to raise, is important. Salts of potash and iron generally help the apple tree. In making selection of the trees, the old idea of having twenty to fifty varieties in one orchard, has been entirely abandoned, and in its stead the grower studies carefully into the question of what kinds of standard and profitable market varieties grow well in that particular section. Having learned this he selects but few, say four to six kinds, and sets his entire orchard with these.

The very best nursery stock should be obtained. Cultivate the ground thoroughly before setting out the trees. In setting, trim the longer roots, and cut back the tops. Low branching trees are best. Set thirty feet apart each way, or fifty trees to the acre. While handling expose the roots to the air as little as possible. When setting tramp the earth firmly upon and around the roots. Cultivation greatly hastens and aids the growth of a young orchard, and for several years at least, farm crops can be grown between the rows of apple trees. Spraying cannot be begun too soon, and in most sections the larvæ of the apple borer, which appear in the trunk of the tree just above the ground, must be looked after and cut out in spring and fall.

At the end of four years from planting, many of the trees will begin to bear, and in six years a considerable crop may be expected. As the trees grow in size and productiveness, the thinning of the fruit is an advantage; first, because it increases the size of that which remains, and, second, because the fruit buds are formed one year for the next, and when the vigor of the tree is taxed to its full capacity in raising a crop these buds are not formed. The crop must be carefully hand-picked, and then for the best results, sorted into grades of uniform perfection, size and color. A box holding about a bushel, is superseding the barrel for the finer grades of apples, and in both barrel and box the apples are placed by hand in layers, so that they present an even, uniform and attractive appearance. It will not be long before the best apples are offered in the small basket, easily carried, and attractive to the buyer. Many a basket will find its way to the home as the father or husband returns from work. The price at which such fruit will sell, will yield a handsome profit.

When taken from the tree, fruit ripens more quickly, and the process of decay begins, hence the temperature should be reduced and kept as low as possible, if in no other way by exposure to night air before packing.

A well grown tree will yield twenty bushels of apples, but assuming an average of only ten bushels for the orchard, and prices from thirty to fifty cents per bushel, and the amount realized from one acre would be from $150 to $200 per acre, surely a handsome profit considering the comparatively small amount of labor required to care for the trees.

When there is fruit in quantity, and of good quality, buyers contract for the entire yield of an orchard, picking, handling and packing the fruit themselves, some growers receiving as high as $5,000 to $10,000 for their crop. A young orchard just coming into bearing, should be worth at least $200 per acre.

Through lack of forethought, and the importunity of agents, the average farmer makes a great mistake in purchasing and planting too many varieties of apples, thus when he wishes to sell, many of the earlier varieties have gone, and of the later kinds he has not enough of any one kind to make a shipment of sufficient size to attract buyers, or to be of profit to himself. Do not plant more than four to six kinds, and let them be winter or late keeping apples. If you have many kinds cull out and graft your trees with the more desirable varieties.

Western Maryland is one of the best sections for apple culture in the Nation, and here a practically unknown locality to the outside public is Garrett county. The apple trees in old orchards have obtained forest proportions, and still thrive. The soil is good; land can be bought at $10 per acre; and the Baltimore & Ohio and Western Maryland Railways pass through the county.

From the high altitude of 2,000 feet, the cold winters, and short and rapid growing season, San José scale and similar insect and fungus diseases are practically unknown.

The estimated crop of apples for 1906 in Garrett county was over one million bushels; these, however, consisted of such a great variety of kinds, many of them being summer apples, that the practical results and profits to the farmers were lost. There can, however, be expected with care, both quantity and quality. As there was picked by one farmer 70 bushels of fine Baldwins from three trees; while King of Tompkins and Twenty Ounce measured over twelve inches in circumference, and Wolfe River over sixteen inches.

There can be no question that Garrett county has a future as an apple-growing region, and he will first reap the generous reward who puts his knowledge into practice.

HARFORD COUNTY.

REPORT OF LEWIS E. HOLLINGSWORTH, *Joppa.*

Ladies and Gentlemen:

The year 1906 might be considered a disastrous one. The weather conditions were so varied this year that we have much to regret, though it was a growing season. The weather was such that it was not difficult to spray with the Lime-Sulphur-Salt or Bordeaux as blossoming time. Apples, peaches and pears are very well set and promised an abundant crop.

On the 31st of May we had a hail-storm that did untold damage, killing chickens, crows, small birds, young fruit trees, strawberries and even forest trees. Luckily, the hail did not extend all over Harford, but the wind was of such violence that much of the fruit was blown off. The pears blighted worse this year than ever. Some sections had a fair peach crop, but this fruit rotted badly, and the trees were affected with the yellows.

Where the strawberry crop was not injured by hail, it was a very paying crop for the few who had them.

But little spraying was done in Harford, though we have the San José scale well established. The scale has gotten into the Osage Orange hedges, where it seems impossible to get rid of it while the hedge stands.

The canning industry seemed to be the one prosperous thing this year. The yield was moderate, but prices were good on tomatoes, and the quality of the tomatoes was exceptionally good. The average for corn for canning was only about 2½ tons per acre, although some of the "Shoe Peg" made 3½ and 4 tons per acre. Those who canned corn, considering the demand and price, did well.

Generally speaking, this is rather a doleful report to offer, but the eastern part of Harford was not so badly damaged, and we hope, next year, to have our old-time prosperity back.

HOWARD COUNTY.

REPORT OF W. S. POWELL, *Ellicott City.*

Mr. President, Ladies and Gentlemen:

The county I have the honor to represent as one of your Vice-Presidents, is Howard, which is, as you probably know, in area next to the smallest in our State. However, in our 250 square miles we have the most complete assortment of lands which are more or less suitable for fruits. The lower part of Howard county, running along the Baltimore and Ohio Railroad for a width of some five miles, is specially adapted to the later varieties of strawberries.

Here I may diverge to say that early next June we are going to have a strawberry fair in Ellicott City under the auspices of the Business Men's Association of that place, of which I have the honor to be president. It is a great pleasure for me to invite the members of this Society to visit the coming strawberry fair.

The next tier of our lands above the first mentioned, for a width of about two miles, is a light clay loam, in which raspberries seem to luxuriate. Then in the different other sections of the county we raise all kinds of pears, and the later varieties of peaches come to perfection. At least they did until our scientific friends brought us the scale, the yellows and blight, and it puzzles us to know why they cannot take these terrible scourges away, and our people are beginning to believe that the real trouble is if the scientists did this, they would lose their jobs, as there would be no work for them to do. Therefore, we will likely continue to suffer. With the peaches, we raise plums, but have not found them profitable. In apples, our most profitable one is the Grimes Golden, for which our people have a ready market in Baltimore and Washington. I regret to say they are not allowed to stay on the trees long enough to reach perfection. The Lankford Seedling is a good apple with us, and a good keeper, and so is the York Imperial and the Never Die, always ready but not pleasant to eat, Ben Davis a continual standby, and should be called the Golden Drop, as it is salable at all times and in all seasons, and it is always ready for making cider, or for pies.

The keeping everlastingly at it in bearing, the somewhat despised Kieffer pear is a profitable fruit with us. This year, however, the prices have been so low most of our Kieffer pear crop has gone into cider, and you need not be surprised if, in the near future, you see Howard county pear cider and Howard county pear vinegar on the markets, and you will like them.

It may not be known to some of you that all along the Patapsco River, which binds Howard county on the north and west, and along the Little Patuxent River, which runs through the center and southwestern part of our county, our lands, which are underlaid with gneiss and granite, countaining from ten to twelve per cent of potash, furnish the best natural food for fruits, the trees grow thrifty and are long-lived. These lands are now covered largely with trees of the cordwood class, and I know of no better opening for fruit men than to buy these lands at the present prices. The wood on them will, if cleared, about pay for them, and then plant the cleared woodlots in suitable fruits. There is one thing we want badly in Howard. It is a local nursery, which will pay special attention to raising trees of fruits known to be successful in our county. Such an enterprise is a guaranteed success. More than 25,000 apple trees were planted in Howard county the last spring. The paper of which I am the editor, the *Ellicott City Times,* carries in each issue some up-to-date horticultural matter, and we begin to see the good effects of the work in the increase of the fruit acreage of the county.

Nut culture is receiving considerable attention from our people, and Japan varieties of chestnuts and the thin-shell walnuts have been found to pay handsomely.

Any one desiring further information about the fruits of Howard, or its fruit lands, will be welcome at the office of the *Ellicott City Times,* Ellicott City, which place, you know, is connected with Baltimore by trolley, and such persons will be put into proper channels for intelligent information of Howard county's many advantages for fruit-raising.

KENT COUNTY.

REPORT OF JAMES S. HARRIS, *Colman.*

Ladies and Gentlemen:

The spring of 1906 came with fair promise of crops of fruit, as far as abundance of buds and full bloom on all kinds of fruit trees could indicate, but the net earnings proved disappointing, with few exceptions, the season through.

Strawberries, the first fruit to ripen, are not grown extensively, although there are no climate or soil reasons to prevent us from being large commercial growers of this delicious early fruit, for it grows to a fine size and appearance and flavor, with large yields when grown for local use.

Pie cherries are grown commercially to a limited extent, and produced a fair crop at remunerative prices, but the warm, showery weather at ripening time caused them to mature a week or ten days earlier than common, and made quick handling necessary to save the fruit.

Sweet cherries were also an abundant crop, but weather conditions were such that a very small part of the crop was marketed.

Plums, after showing a fine bloom, failed to set a crop, and were almost an entire failure.

Peaches of all varieties, early, middle, and late, had an unusually abundant bloom, set heavy with small June drops, and during the early part of July, promised the largest yield in a dozen years, but with the ripening, or a little in advance of it, came the rot, caused by the uncommonly long continued rainy, warm weather, with unusual humidity of atmosphere, which conditions prevailed during the entire peach ripening season, and caused the rotting of peaches to such an extent that less than one-third of the fruit on the trees was marketed, and what small percentage of the crop that was picked and shipped from the orchards, had to be consumed in the nearby markets, at low prices, as they would not carry to long distances and market in good condition, as they usually do, some of the very best varieties rotting even much worse than this. The White Heath Cling, the finest fruit of all the late varieties, rotted so badly that ninety-five per cent never reached a marketable condition, being worse affected by the weather conditions than Rivers Hales and that early family. There were short intervals of better shipping weather during the ripening of Foster, Reeves, Elberta and Crawfords that saved the season from being a total disaster. Such a season as the last indicates plainly that it is the weather conditions and not the variety of peaches that is to blame for the rot. Pears, after coming out in the spring with a full, bright bloom, set a very moderate crop, so that the earlier and middle ripening varieties sold at remunerative prices, particularly Bartlett and Seckel. These varieties have been so badly affected with blight of late years, that commercial orchards of them are getting scarce.

Duchess, which were once so numerous and profitable, are no longer grown. Not because of the blight, but because of the low, unprofitable prices at which they have been selling during the past ten or twelve years.

Kieffers are over-planted, and Kent county is one of the large producing counties of this fruit. Although they had a full bloom, weather conditions at blooming time were such that a very light crop was set, and the fruit was large, but on account of the lack of sunshine and excess of rain it was generally covered worse with rust than ever before. Notwithstanding the fact that Kieffer orchards generally set less than half a crop, yet much of the fruit was allowed to go to waste on account of low prices, some tenants preferring not to handle them, claiming they could not make expenses from half the sales.

Kieffers are less troubled with blight than other varieties, and are almost exempt from injury from scale, which, with their early and abundant bearing habits, has caused them to be over-planted.

Codling-moth and the rust are troubling more each year, and to control these troubles it is found that we must spray with the Bordeaux mixture and some arsenic poison, which adds to the cost of production, but makes brighter and more perfect fruit.

Apples are grown commercially to some extent and, when well cared for and sprayed for codling-moth and scale, have the past season been a paying crop, particularly the early varieties that are ready to put in the market before the peaches begin to be abundant. And, with proper management, the winter varieties that are suited to our climate make as fine-looking, large, smooth, well-flavored fruit as comes from the North, as an examination of the fruit exhibit of this Society will show.

The very wet summer caused us to lose more peach trees by the yellows during 1906 than we have for a number of years, though the loss was small compared with what it was ten or twelve years ago, and our people are more careful to dig them out now than they formerly were, which, with normal weather, will be likely to prevent another spread of that destructive disease.

There has been more spraying for San José scale the present year than ever before, and orchards that were thoroughly sprayed in March with the Lime-Sulphur-Salt solution have the insects fairly well in check, but none so cleaned of them but that they will need to be sprayed again during the coming winter or spring.

When left unsprayed your orchards of all kinds of fruit trees, except Kieffers and Leconte pears, and sour cherries, soon become worthless and die from the effects of scale, but I have seen no injury to forest trees caused by San José scale.

The preference of our people now is to prune for low-headed trees, because of more ease in picking the fruit, and more certainty of killing the scale with the spray in the tops of the trees, which is difficult to do in the tops of tall trees.

In closing this report, I feel it my duty to call attention to the great loss the Maryland State Horticultural Society has sustained by the death, since we met last, of Captain Robert S. Emory, of Kent county. A man second to none in true devotion to the interests of this Society and horticulture in general. Born near the banks of the Chester in 1832, completing his education by a four-years' course at Dickenson's College, which, with his bright intellect, untiring energy, his sterling integrity and genial nature, fully qualified him for the prominent place he has so long and successfully filled out to a ripe old age, respected and loved by all who knew him.

His presence and wisdom in the counsels of this Society from its beginning has added greatly to bring it up to its present prominent standing.

Let us emulate his fine, useful life.

MONTGOMERY COUNTY.

Report of R. Bentley Thomas, *Ednor.*

Ladies and Gentlemen:

In looking around for material upon which to base a report, your Vice-President from Montgomery finds a difficult task.

In the first place, horticulture is, at most, only a side issue with most of us. Secondly, on account of frost the final crop this year was extremely short and, in some low places, wiped out entirely, and, thirdly, the lack of proper transportation facilities makes it hard to get perishable produce on the markets while in the best condition. I am glad to report that spraying is growing in favor among our people after practical demonstrations of its value. The scale is well established in every nook and corner of the county and, wherever there are peach trees, we find the yellows, and these are very often dying of one complaint while fatally affected with the other. The potato crop was a bountiful one, 200 bushels to the acre, notwithstanding the fact that many fields were, on account of excessive rains, worked only once, and very few were sprayed at all. The Colorado beetle having practically disappeared from our midst this year, made our growers careless in this respect. I fully believe the crop would have been 300 instead of 200 bushels per acre if they had been properly sprayed, the neglecting of which allowed the blight to get a hold, and kill off the vines long before they should have succumbed. The fact that we could last fall gather up lady bugs in sheltered places, actually by the quart, may have some connection with the demise of Mr. Colorado beetle, whether he will revive next year to again whet his voracious appetite remains to be seen.

The outlook for the horticultural future in our county is brightening; new and larger orchards are being set out, and the farmers are coming to see that there is money in them if properly worked, so let us hope that in the near future when the roll is called, old Montgomery will respond with a fuller and better report.

PRINCE GEORGE'S COUNTY.

REPORT OF DR. E. P. MAGRUDER, *Glendale.*

Ladies and Gentlemen:

The year 1906 will not be cherished by the horticulturists of Prince George's county as one that brought with it the horn of plenty. The severe early spring frost destroyed an otherwise beautiful set of fruit, particularly of the peach, plum, and the pear. The resulting short crop was made less still by the continuous rains and brown-rot ravishes. Prices were good enough, if we had had some quantity to sell. Apples were very short.

The white and sweet potato crops were fair in amount and quality, considering the very wet season. White potatoes brought from $1.50 to $2.25 per barrel; sweets from $1.25 to $3.00, according to whether they were landed upon the market early or late in the season.

Grain crops, for the most part, fell short of the average, the quantity of hay sown was larger than usual.

Our people are waking up to the importance of a variety of crops, repeated failure of a single crop having taught them the folly of their way.

ST. MARY'S COUNTY.

REPORT OF GEO. F. WATHEN, *Lovesville*.

Ladies and Gentlemen:

I regret to be compelled to report that our people, as a class, are not fruit-growers. In many sections of the county little or no attention is given to producing even fruit enough for the family. This is to be sincerely regretted for more reasons than one:

1. Fruit is one of the most healthful of all the foods which God has given to man, and therefore is most desirable as a factor in the diet of every household.

2. There is no section of Maryland that possesses to a greater degree the soil and climatic conditions necessary to make fruit-growing a success, than does Southern Maryland. You ask, in your minds, then, why is it that fruit-growing is not a branch of the farming industry of St. Mary's county? I can attribute it to but two causes:

First. We, as a people, in St. Mary's, have turned our land over to the growth of tobacco, as the principal source of our financial returns. In the large majority of instances, every other activity on the farm is made to take second place, so long as this crop is in need of attention. Every tobacco-grower knows that he is never through with it. From seed-bed to hogshead is 18 months. Cultivation of corn, when needed, harvesting of hay, attention to the garden, and in fine every other farm activity, cost what it will, must suffer if tobacco needs your attention. Then, tobacco is the cause of our neglected opportunities in fruit-growing.

Second. The secondary cause is that our people are not trained to fruit-growing. To become a fruit-grower, a man must have a training for the business. He must know how to control insect pests and plant diseases. He must be acquainted with the adaptability of his soils to the fruit best suited to it; he must make the right selection; must understand the proper method of cultivation, pruning and spraying, and when his orchard comes into bearing, he must understand the principles of thinning, gathering and packing, and finally he must know how to market his fruit.

Let any native St. Mary's county farmer get the training described at the Maryland Agricultural College, and then come home and select 10 acres on his farm, of equal fertility with his tobacco lot, and keep a record for 10 years of the net proceeds of the orchard and tobacco lot, and I will guarantee that the orchard lot will have yielded net returns of over 100 per cent more, as compared with the tobacco lot.

In addition, the orchard lot, if proper tillage is given it, will have improved in fertility and will not have cost 25 per cent of the amount expended in cultivation and handling of the product. Our people must learn to do away with tobacco as the only source of revenue. Fruit, poultry, trucking and live stock must each have a place on the farm. I look confidently to the time when the recent history of the Eastern Shore of Maryland will repeat itself in Southern Maryland.

At present the market values of our farms is very low and this is to be accredited to but one cause. The net income from an acre of land is what fixes its value. A small net return means a small value per acre. Under present conditions, it is impossible to secure large net returns from the cultivation of tobacco. The advanced price of labor, diminished fertility and low prices, make it an impossibility.

Calvert county, located in Southern Maryland, is probably as prosperous a county as is in the State. There are three contributing causes for this—

First, the growth of fruit;

Second, the planting of oysters by farmers whose property borders the water, and

Third, the liquidation of mortgages, thus removing the interest tax, and

Fourth, growing all that is consumed on the farm by live stock of one kind or another.

This diversity of economies has practically removed the mortgage indebtedness from this county. St. Mary's may well profit by this example. Our people are amoung the kindest and most generous in the State, and it is my earnest desire to see them embrace every opportunity which will lend itself to making the vocation in which they are engaged more profitable to themselves and their families. Our Agricultural College is certainly an instrument for this attainment, if our people will only practice the teachings which its publications carry into the homes, and conditions must improve.

One essential in farming is the live stock industry. Wherever it is a feature of the operation of the farm, here is certainly to be found an increasingly productive condition of the farm. It is equally true that where it does not exist, you find your land decreasing in its productive capacity. We, in St. Mary's county, have failed to appreciate these facts. Continuous ploughing, continuous selling of the fertility of our lands in the shape of tobacco, hay, wheat and sometimes corn, each and all, are reducing the fertility that is left. The sign of the times should convince our people of the fact that we cannot forever draw drafts upon our soils and expect these drafts to be honored, without, at the same time, making provision for deposits to meet these drafts.

We may be slow to appreciate these truths, still we believe that the county will eventually attain this realization.

QUEEN ANNE'S COUNTY.

REPORT OF W. IRVING WALKER, *Millington, Md.*

Ladies and Gentlemen:

In reporting as your correspondent from Queen Anne county, I would say that the past year has not been a favorable one to the horticulturists of this county, owing principally to the erratic weather conditions throughout the season. In early spring there was a promise of a successful fruit year, when at the date of May 10 a severe frost did some injury to strawberries and other fruits in blossom. However, there were sufficient blossoms of all fruits unhurt for fair profit if the succeeding climatic conditions had been favorable. A drought in early spring stunted the strawberry crop, and an exceptionally wet season later caused much of our fruit to rot, especially peaches. The Kieffer pear crop was no doubt the most satisfactory crop from point of yield, however the wet season caused them to be especially rusty, making a lower grade of product.

There is no doubt, however, that the planting of fruits, both small as well as orchard, has received great impetus during the last few years, and I firmly believe, that with the continued realization on the part of the present growers of their ability to control the San José scale and peach yellows, by thorough spraying once a year, which should be considered routine, for the scale and the immediate destruction of trees affected with yellows, Queen Anne county will soon take her place, as of old, as one of the leading counties in the State in fruit production. The possibilities of the county are unlimited for both general farming and growing of all kinds of fruits, and it is hoped that, ere another year rolls around your Vice-President will be able to report a decided increase in this important industry and further organization of Farmers' Clubs in different parts of the county will be effected, thereby placing ourselves in a better position to appreciate and discuss the information disseminated and to make our just demands from the Nation and State, a part of which we represent.

SOMERSET COUNTY.

REPORT OF F. E. MATTHEWS, *Pocomoke City.*

Members of the State Horticultural Society:

It again becomes my duty to record some of the events, in an agricultural way, of my county (Somerset) for the year 1906.

Our first crop, the strawberry, paid better than for several seasons past. The Hoffman was not at the head of the list, as heretofore. This variety is an early bloomer, and most of the earlier bloom was killed by the late frosts. The honors were about even between Hoffman and Oaks Early. This berry originated in this county, and was mentioned in my last year's report. This has proved to be a good all-round berry, while perhaps not being so fine a berry as Hoffman, it is a surer and heavier cropper, seems to be equally at home on all kinds of soil, its blossoms are hardy, and it is a good shipper.

Another good paying berry this season was Olive Pride (which also originated in this county). This is a large, showy berry, the plants are large and vigorous. It is not a first-class shipper, but comes all right in iced cars, and is much sought after by dealers. This berry does not do so well on sandy soil, but is at home on the moist, black soil, where it originated, and it is certainly a money-maker when planted in such soil and well cared for.

The Gandy still holds its place as being the best paying late berry and is being more largely planted each season.

Raspberries, gooseberries, and currants, not grown here commercially. Very few blackberries grown in this county now.

The peach crop was a short one here this season, principally due to late frosts, although the unprecedented wet weather caused much fruit to rot; some varieties nearly all rotted, Champion rotting the worst. Elberta and Mountain Rose also rotted badly. I found Stump, World and Crawford's Late to stand up better than any other varieties. Very little of the fruit was shipped; sold to canner at from 40 cents to 50 cents per basket.

The Japan plums also rotted badly, worse than ever before; the crop was also cut by frost; very little pay in it this season.

The apple crop was short also; very few early apples grown here. The winter apples were not over 50 per cent of a crop. I found that the old Winesap was the only variety that held its fruit, and brought its crop to maturity. Seventy-five per cent of York Imperial either rotted or dropped. This was the case in even the trees well sprayed and cared for. If confined to grow but one variety of winter apple, I would without hesitation choose the old Winesap.

The pear crop was the shortest in years; practically no Bartlett, due mostly to blight; fair crop of Le Conte and Duchess; not over 505 of Kieffers. The local canner will not use this variety, compelling growers to ship. This is done mostly in bulk cars, sold at from 40 cents to 60 cents per hundredweight f. o. b. here; some money in them at latter figure, when full crop, and not too long a haul.

The Irish potato crop was not a full one, but quality was excellent, tubers very smooth and handsome; very little scab. Irish Cobler was the best variety grown here again this season. This is no doubt a very valuable variety. Another good variety is Early Sunlight. This is an earlier potato than Cobler, and the growers who planted it largely this season were handsomely repaid.

The late Irish potato crop, both for table and seed, is very short, the excessive rains rotting seed pieces badly, so that there was a very uneven stand; also it was impossible to cultivate properly on account of the wet; then just as the crop got ready to make, there came those killing frosts in succession about the middle of October, killing the vines to the ground, the great majority of tubers not more than half size.

There was a larger acreage of sweets planted than ever before, but owing to the most unusual season, Virginia, Maryland, Delaware and New Jersey all began to ship at about the same time, consequently the returns were most disappointing. Our exchange made every effort to find a paying market for the crop, but without much success. Quite a quantity are stored away for winter, but are rotting badly. It looks now as though seed sweets will be very scarce next season; think they were too full of water to keep well.

The wheat crop was only fair when cut, and was afterward badly damaged in shock by rain. Very little No. 1 wheat housed in this county, consequently good seed was scarce, many fields coming up badly, owing to defective seed, about the usual average.

Oat crop very poor; some winter oats sown made fair crop.

Hay crop, as a rule, very short here; practically no clover hay saved, owing to protracted drouth early in spring. Timothy made better crop than clover; got benefit of rainy season; very difficult to cure timothy this season; had to work between showers; almost impossible to cure properly this year without tedder.

Alfalfa, as usual, good crop, mostly fair to fine cuttings; this is certainly a very valuable crop, and should be more largely grown here; quite a large acreage sown this fall, and a most excellent stand as a rule. The Agricultural Department at Washington, working with our Experiment Station, has distributed quite a number of bushels of this seed through this vicinity; the seed must have been first-class, as I have failed to see a single bad stand, where this seed was sown, and directions complied with. It is my opinion that the Government will get more credit from these lots of seed than all the garden seed put together ever sent here.

The corn crop was good on high, well-drained land; almost complete failure in low land; not half enough raised in this county this year for home consumption; the fodder from the crop, which is highly prized, was badly damaged by the wet; this is a great misfortune, as many farmers depend on this crop more than on hay. This is saved by taking the top off just above the ear, then stripped off when cured; it usually takes a week or ten days; it is stacked around a pole in the field; when stacked in this way it will keep in first-class condition for a year or more, and is certainly a convenient and most valuable feed.

Pastures have been unusually good, and stock mostly in good condition.

The early tomato crop did not pay so well as it generally does, this season; prices dropped quickly, soon after shipments commenced;

local canners, however, were anxious for them, and took bulk of the crop at fair prices; growers usually get fancy prices for first shipments; did not do so this year; the late crop of this fruit or vegetable was very poor, owing to too much rain. Growers, as a rule, get good stand, but for weeks at a time could not get in their fields to cultivate; consequently, most patches were practically ruined by weeds and grass and water. In my own case, I grew two crops on land at same time. A very large and heavy crop of crab-grass, and a very small crop of tomatoes, and I had lots of company, I believe. The canners made quite a lot of money; the crop was poor, but they had a large acreage, and as a rule got good prices for their entire pack. This canning business is increasing every year, new houses going up each season. Price paid growers this season was $8.00 per ton. At this price, with short haul, this crop will pay better than grain, beside leaving the land better; it certainly improves land.

Our Produce Exchange has again proven a blessing. If every grower of produce would only join this Association, and turn all of their products over to its management, it would prove to be a greater blessing than it has. I firmly believe this: This Exchange has not only protected us by keeping us posted as to prices, but pays its stockholders a dividend of 10 per cent, leaving a surplus to carry it through the dull season.

I think this a good showing for this most remarkable season of long dry spells and long wet spells, late frosts and early frosts. There has been no high winds, however, and as a rule, both people and stock have been healthy, so there is always sure to be something to be thankful for.

TALBOT COUNTY.

REPORT OF DR. CHARLES LOWNDES, *Easton*.

Ladies and Gentlemen:

The season of 1906 has been a most unprofitable one for the horticulturists and farmers of Talbot county. The month of May was very dry and we had no rain of any amount until the 15th of June, and after that continuous rain during the remainder of the summer.

The rains were too late for the hay crop, and the wet weather during and after the wheat harvest did much damage to the grain.

Sixty cents per bushel was the average price farmers received for their wheat.

The fruit was also seriously damaged by the continued rains, and vegetables suffered likewise, and weeds took possession of our gardens and corn fields. On account of the wet weather we could not cultivate our crops as we should have done. Many barren stalks were found in every corn field where the land was low, while the growth of foliage was out of proportion for the size of the ears.

Systematic and scientific horticulture has been much neglected in Talbot county for the past ten years, from the fact that farmers have found that groing wheat, corn and hay is more profitable than fruit. The difficulty in obtaining reliable labor and high prices for transportation to the city markets have discouraged the farmers in the culture of fruits. The strawberry crop was a good one, while we only had half a crop of tomatoes.

Peaches, plums, and grapes were failures. The apple and pear crops were fairly good. Strangers have purchased many of our farms, and those situated on the water have brought good prices. One hundred dollars per acre is not considered high where the situation and buildings are in good repair.

I regret to say that insect pests are not decreasing. San José scale still remains with us, although there has been some spraying. A party from Philadelphia visited Talbot county last October with an outfit for fumigation of fruit trees, and told us fumigation had been very successful in Pennsylvania. The outfit consisted of large tents which covered the trees, and gas was used which was generated under the tent. He would not tell us what the chemical constituents of the gas were. Some few trees were fumigated. As yet it is too soon to say what the results will be.

WICOMICO COUNTY.

REPORT OF W. F. ALLEN, *Salisbury*.

Ladies and Gentlemen:

For the past few years, Wicomico county has been progressing very rapidly; people everywhere in our county seem to be taking more interest in growing good crops than they did a few years ago; more interest in fixing up their places and keeping them in an attractive appearance. Land has advanced very rapidly. Improved farms for several miles around Salisbury are generally bringing 100 per cent more than they were from seven to ten years ago; some have made even better advances than this. The most of our soil is very light and many persons who are used to clay land are very much surprised at the crops we grow. Having had experience in farming on both clay and light sandy soils, I say, without fear of successful contradiction, that I can grow more and better crops of almost any kind on light sandy land, if kept in good state of cultivation, than can be grown on stiff clay land. Of course, I do not contend that our light sandy soil is well adapted to pasturing stock, but I can keep the stock confined to the stall or pound, and grow forage crops such as cow peas, crimson clover, soy beans, etc., and keep more stock to the acre and in better condition than can be done on stiff clay land. Cow peas are grown very extensively and have done great good in this county in solving the feed question and in enriching the soil. Scarlet clover grows to perfection, and this also has been a big help in improving our soil. Almost all crops grow luxuriantly after peas and clover.

Large quantities of strawberries are grown and usually bring paying prices. In certain sections, however, the past season this crop was almost entirely destroyed by the late freeze on the night of May 10th last. Lucretia dewberries are extensively and profitably grown. Wicomico county, no doubt, grows more canteloupes and watermelons than any other county in the State of Maryland. Many car loads of canteloupes and watermelons are shipped North every day during the season; one grower sometimes shipping as much as three cars of canteloupes and four cars of watermelons in a single day. Canteloupes will thrive on our light, sandy soil, I believe, equally as well as in the famous Rocky Ford districts. The only difference is, we cannot always get the quality on account of the excessive rains, but when we have a favorable season, no better can be grown anywhere. It is not uncommon to grow fields of watermelons that will average forty pounds.

Tomatoes are extensively grown as a canning crop; sweet potatoes are grown to perfection. We think, better than can be grown on the Eastern Shore counties of Virginia and equal to the famous Vinelands. White potatoes are extensively grown, and as they can be planted very early, often pay handsomely. Tree fruits, with the exception of a few individual parties, receive but little attention, commercially, in our county, notwithstanding that peaches especially are grown here to perfection. All grain crops do comparatively well, and, in fact, about everything that can be grown in this latitude, makes a favorable showing in Wicomico county.

WORCESTER COUNTY.

REPORT OF C. M. PETERS, *Snow Hill.*

Ladies and Gentlemen:

In making my annual report for Worcester county, I very much regret, from a financial standpoint, it has been very unsatisfactory, owing entirely to the very peculiar conditions that prevailed throughout the entire year.

It seems no one crop escaped without some setback to it. Early peas, grown principally for canning, was a failure, caused principally from early drouth and cold weather. Tomato crop, planted after peas, suffered from the reverse—too much rain during the blossoming or setting of the first fruit—and they resulted in a very short crop. Early potatoes (white) not over half a crop, except where planted near the salt water, which had a tendency to counteract the late frost, which cut them very badly when about 8 inches high. Those that were protected produced an average crop, and were marketed at good prices. Late crop of white potatoes, owing to excessive moisture at planting time, in majority of cases, did not come up good; this, with the early frost that struck them at the time they were making, which checked their growth, caused a short crop, which is still in the growers' hands, holding for better prices.

Sweet potatoes, where planted early, that escaped the frosts, yielded possibly a half crop, but sold well. Those planted later, in many cases were planted a second time where first planting had been cut down by frost grew too much vine, owing to too much wet weather yielded poor, and quality inferior, resulted in very low prices.

Wheat, except where sown late, after corn, yielded well, but owing to so much rain which prevailed throughout the harvesting, damaged the crop so that it could, in a majority of cases, only be sold as damaged. Hay, good crop, but not able to save it in first-class shape. Oat crop an entire failure, owing to wet weather. Corn crop not over one-half, and quality poor in most cases; so much moisture from a short time after planting throughout the entire growing season that it was impossible to give proper cultivation. Cow peas, scarlet clover and red clover, all grown for seed, was almost entire failures, so far as being able to save the crop after maturing, owing to so much moisture that prevailed. Pears was an average crop and sold at paying prices.

Apples, short crop and disposed of mostly at home at good prices. Peaches, very few but sold well.

The nursery industry also suffered considerably, owing to so much rain that prevailed throughout the season for budding the stocks that were planted to propagate for the coming year, necessitating in many instances rebudding the second time, which may result in a bad stand for the next year's sales. Otherwise the excessive moisture did no material damage, except to make the cost of cultivating very expensive. Good growths were obtained, which was a decided advantage in making the trees grade to better average. But it is a question whether the extra work to keep growth of weeds down cost more than the gain in better caliper of stock.

While I said in the start, from a financial standpoint, so far as the general crops being grown at a profit to the producer, there are other conditions that are encouraging. Our farmers have not been slow in taking advantage of benefits derived in bettering the conditions by growing more crops that prove conclusively has improved their soil, and using advanced methods by which they reduce the labor problem. Land values have increased steadily for the past five years, and much real estate has changed hands. In very many cases those that in the past were renters are now owners of the land, which means very much. It shows that our county is coming to the front and our farms being improved.

THURSDAY, 2 P. M.

Meeting called to order by the President, who introduced the first speaker.

MARKETING PERISHABLE FARM PRODUCTS.

PROF. W. J. SPILLMAN, *U. S. Dept. Agriculture.*

Ladies and Gentlemen:

There are two principal difficulties in the marketing of those farm products which must be consumed within a short period from the time they are harvested. These difficulties are more marked in the case of truck crops and berries than they are in the case of fruits, for which reason most of what I shall say will apply more particularly to the former class. The reason for the difference between these two classes lies principally in the fact that orchard areas in the very nature of the case can not be so variable as the areas of truck crops; hence, production is more regular.

Both of the difficulties are serious, and can not be overcome without the co-operation of all concerned. The first relates to the methods used by some commission houses who do not give the producer a square deal. This difficulty exists more or less in all market centers. It is less general than formerly, since the better class of commission men have formed organizations with a view to eliminating dishonest men from the business. Yet conditions are far from satisfactory. Under our present system it is rather difficult for the farmer to determine when he has fair treatment. He ships one consignment to a commission firm and receives by wire notification that the goods have arrived in bad condition and can not be accepted; what shall be done with them. In most cases the only recourse is to wire instructions to do the best possible under the circumstances. In the case supposed it happens that the telegram to the farmer was sent even before the goods arrived. When they arrive they are sold at a good price, and the commission man pockets the money and draws on the farmer for the freight. The farmer does not know whether he has received what is coming to him, but the next time he ships he tries another firm. This time he happens to ship to a firm that does a strictly honorable business. The goods arrive in rather poor condition, on a glutted market, and do not sell for enough to pay the freight. In this case he gets the same kind of report that he got before. Now, how is the farmer to know the difference between these two firms? Both of the cases I have supposed occur frequently in most market centers.

Several States have very satisfactory laws governing the commission business; but a farmer in Florida is not in position to take advantage of the laws of New York, so he submits and accepts the reports he receives and pays the freight. I am speaking now of the average case. Occasionally, he does as a Texas farmer did with a second carload of potatoes shipped to a firm in Cincinnati. He follows up the carload and receives a telegram, forwarded to him, the day before the potatoes arrive in Cincinnati, stating that the potatoes have arrived in bad condition and can not be handled. He sees his car of potatoes opened, ascertains from a member of the firm that they are selling at $1.25 a bushel, that they are the second carload they have received from the shipper, the previous carload having been sold at the same price. Armed with this information he visits the commission house and collects pay for both the carloads and his expenses for the trip. He can not, however, afford to go to the expense of prosecuting the thief who has been attempting to steal from him. Occurrences of this kind are so rare as to have little effect on dishonest men who masquerade as commission merchants. It is clear to me, since shipments of this kind are usually interstate commerce, that it is the duty of the National Government to legislate upon the subject and to provide inspectors who shall become responsible for enforcing the law. This law should require consignees to keep an accurate record of all interstate consignments, showing the date received, the shipper, and the amount received for the consignment. When a farmer believes he has been defrauded, the inspector ascertains from the books of the consignee and from the books of the merchants to whom the goods were sold the actual amount received for the shipment; and if there is a discrepancy between the report made to the shipper and the actual facts he institutes proceedings against the consignee. Provision for such inspection has been made in the Simmons Bill, which was introduced into the Senate last winter by Hon. F. M. Simmons, of North Carolina (Senate Bill No. 5945), of which the following is a copy. (I would suggest that instead of reading the bill, it be printed in the daily paper, so that copies of it may be available for all who are interested in it.) This bill will be brought up in the Senate early this winter, and I would suggest that those who are interested in the matter take such steps as they may deem advisable to interest Maryland Senators and Representatives in the fate of this bill. It is possible that material modifications of the bill may be desirable. It is important that the matter receive early and earnest consideration with a view to securing such amendments to the bill as may be needed, and to insuring its passage.

The difficulty described above is only one of the serious problems to be met. When a farmer plants several acres, say, of lettuce, he never knows whether he shall have the privilege of entering a bare market or one that is overstocked with lettuce. We have no system by which a farmer may know how much it is safe to plant of any perishable product. Again, even when there is no surplus of a given product, our present method of distributing these products to the various market centers is such that a market which is bare on a given day is liable to be flooded three or four days later. Suppose that the amount of lettuce in sight in New York on a given day is far below the demand. Every commission merchant in New York wires all his correspondents of this condition. The majority of shippers make a rush for this open market. The result is a flooded market, while Philadelphia, which may have been flooded four days previously, is now crying for lettuce. I know one farmer who invariably ships to the market which is the most overstocked, and he seldom fails to receive good prices, for the reasons stated above. How can these matters be remedied? It is possible that no remedy whatever can be found. Theoretically, it is not difficult to devise a scheme to overcome this difficulty. The difficulty lies in human nature itself. Suppose, for instance, that it is ascertained that the quantity of potatoes to be marketed is twice what the markets will absorb at a fair price. This means that in order to make any system effective each grower must cull and ship only half his crop. A good many men will be disposed to assume that the other fellow is going to feed potatoes to the pigs while he, himself, will send his potatoes to market and get a good price for them. The system I have outlined for dealing with this situation is described below. Suggestions looking toward a better system, or to the improvement of the one here outlined, are earnestly invited.

Let us suppose that the National Department of Agriculture, through its Bureau of Statistics, determines approximately the quantity of all classes of perishable farm products the markets will absorb for each month or other period. We may illustrate the working of the system by considering a definite crop, say, potatoes, which in the Southern States represent a quickly perishable product. It is ascertained that the markets of the country will absorb the normal product from, say, forty thousand acres of potatoes during the first half of June. The belt of country which normally throws its potatoes on the market during that period is mapped out. Through proper State and local organizations, the Bureau of Statistics notifies each section in this belt of the number of acres of potatoes that may safely be planted in the belt, and more particularly in each State in the belt. Each State officer distributes the acreage allotted to his State between the different producing centers in his territory in a similar way. As soon as the crop is planted reports are received showing the actual acreage planted. During the growing season reports on the condition of the crop are received, and before harvesting begins an estimate is made of the quantity of potatoes to be marketed. Let us suppose, now, that during the last half of May the market has been rather overcrowded and that prices are low. Suppose, further, that the estimate of the crop indicates a surplus of 25 per cent on the normal basis. This, taken in connection with low prices at the beginning of the period, indicates that, say, 70 per cent of the production during the first half of June will be absorbed by the markets at fair prices. This information is then given to each State, and every grower is advised to cull his potatoes, marketing only 70 per cent of them. If these instructions are followed, there will be some money for shippers. If they are not, all will lose money.

Whether farmers could be induced to hold back a portion of their product when prices are such as to give a fair profit is a question that must be determined by experience. It seems to me that by proper organization amongst the farmers such a system could be made to work. A great deal of preliminary labor is necessary, and it will take time to secure efficient organization of such a system.

An additional feature of the system relates to a proper distribution of the product as between market centers. By keeping closely in touch with market conditions in all the centers, it would be possible for those in charge of the National end of the organization to advise each section daily as to the best shipping point. It would be possible to ascertain the quantity of potatoes started to each of the large market centers daily, and to govern shipments in such a way that all markets shall be supplied with what they will consume.

Other crops would be handled in much the same way as I have outlined here for the potato crop. It seems to me that such a system by which all the markets are continually supplied with what they will consume and no more would result in a large increase in consumption, by keeping constant supplies in the markets. It would certainly result in much more satisfactory returns to the farmer. The National Government stands ready to do its part in such a system.

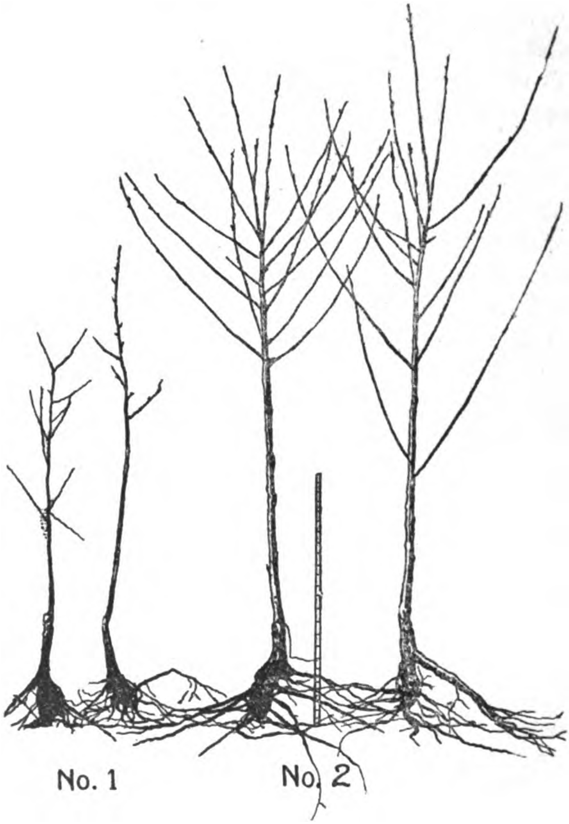
I am aware that the organization here suggested is an exceedingly complex one, and that the difficulties connected with its conduct are great. But this is not sufficient reason for not undertaking it. It would please me very much to have a full and free expression of opinion concerning the feasibility of developing the system here outlined.

ORCHARD MANAGEMENT.

Prof. S. A. Beach, *Iowa Agricultural College.*

Ladies and Gentlemen:

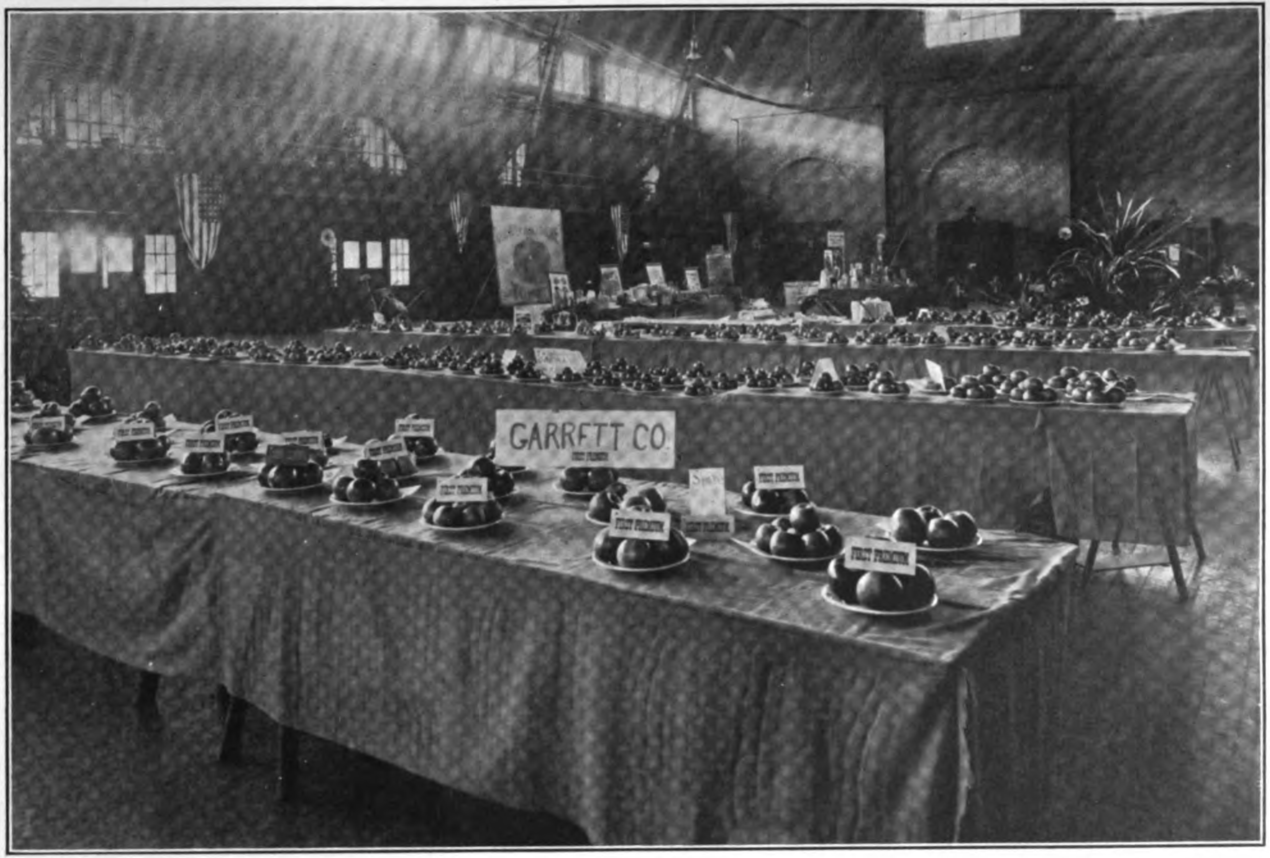
I have prepared no formal paper on the subject of "Orchard Management," which your Secretary has assigned to me, and I will therefore take up the discussion in an informal way.



Early Richmond Cherry Trees. No. 1—Grown in untilled ground. No. 2—Grown in tilled ground.

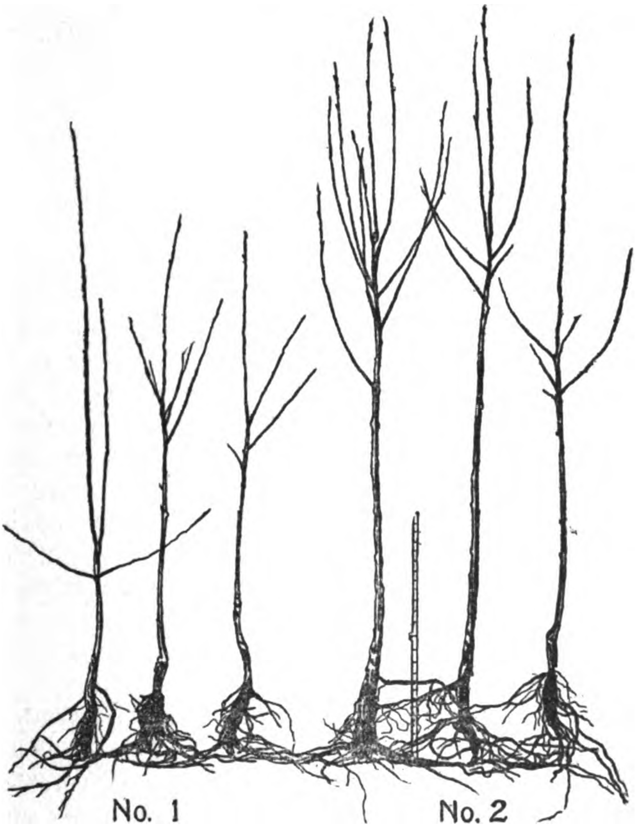
First, we will give attention to questions concerning the activity of roots of orchard trees. A correct understanding of these questions can not fail to be of great advantage to any one who is interested in orchard management. As an object-lesson on the benefits of drainage for certain orchard soils, I have brought with me a

PLATE VI.



PART OF EXHIBIT AT ANNUAL MEETING, BALTIMORE, MD., DECEMBER 5 AND 6, 1906.

chart, reproduced from a photograph, of certain nursery trees grown under comparable conditions; some on tile-drained land and some on adjacent land untiled. These trees were grown by one of the large nurseries at Geneva, New York, near the New York State Experiment Station. The manager of the nursery, following a custom which has come to prevail among nurserymen in that region, laid lines of tile through the field about two rods apart before planting the nursery trees, except that on one border of the field a line of tile was omitted. The field was quite uniform in topography. It was land that would not be called low; although it was pretty level, it had sufficient slope so that the surface water would readily run off



Northern Spy Apple Trees. No. 1—Grown in untilled ground. No. 2—Grown in tilled ground.

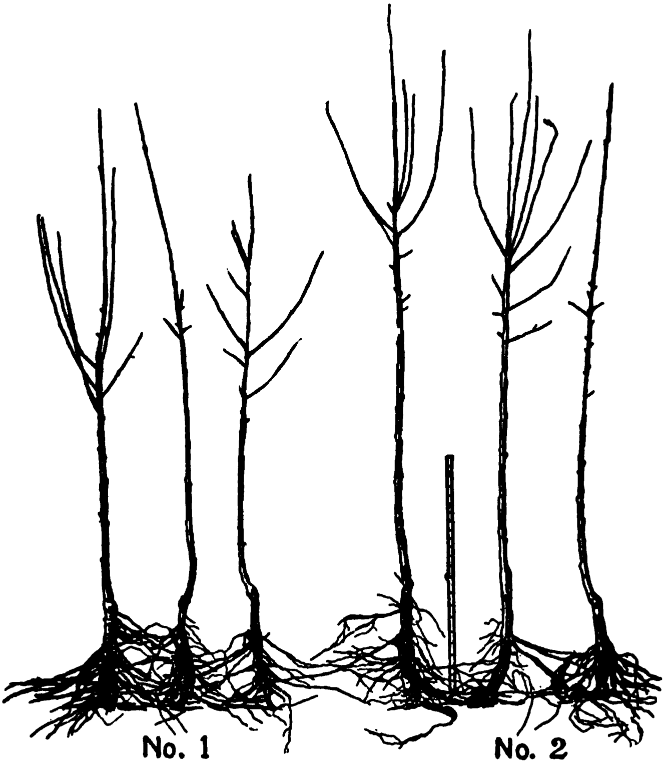
from it. After the lines of tile were laid, rows of nursery stock were planted at right angles to the lines of tile. Both the tiled and untiled portions of the field were handled similarly in all respects. As soon as one entered the field where the trees were growing he could readily discover that where there was no tile the trees were not doing so well as they did on the adjacent tiled land. The difference in the growth of the trees on the portion that was tiled as compared with that portion which was not tiled is illustrated by the accompanying chart showing Early Richmond cherry and Northern Spy apple from the tiled and untiled portions of the field. Fearing that I might be prejudiced and make an unfair selection, I requested some one else to select for me a few trees which he thought would represent the average of the variety, both on the land which was tiled and that which was not tiled.

This illustration makes it clear why the nurserymen of Geneva have adopted the custom of tiling the land which they plant to nursery stock. They may pay a cash rent for their nursery land of from twelve to fifteen dollars, or sometimes eighteen dollars, per acre annually for a period of five years. As soon as they have possession of the land, as a rule, the very first thing they do is to lay tile two rods apart. They have found that in growing a crop of nursery trees they can not afford to do otherwise. They not only tile land that is flat, but also land which is rolling or even hilly. If such preparation of the land is profitable for a crop of nursery stock, why would it not be profitable for the same varieties of trees on similar soils when they are grown in the orchard.

HOW DOES TILING BENEFIT THE ROOTS?

Where tiling the land tends to promote a better growth of trees it does so by making the soil a more congenial home for the roots, or, in other words, by making the conditions more favorable for the vital activities of the roots. We know that the roots supply the leaves and other portions of the plant above the ground with sap which has in it solutions of certain earthy materials. These earthy materials remain as ashes when the tree is burned. Probably we do not realize as vividly as we should that the taking of the sap into the plant from the soil is a vital activity. The roots do not simply soak up the soil water as a sponge or as a fence post might soak it up. The living matter in the roots shows so strong an affinity for the soil moisture that it will gather moisture from soil that is apparently dry. That is to say, it exercises a vital function in getting hold of the soil moisture, which thus enters the sap of the plant as so much crude material to be used for plant food.

In order to have this vital process go on the feeding roots must have air, which means of course that there must be air in the soil. In saying this we refer particularly to the roots of ordinary orchard trees. We are not taking into consideration water plants or other plants whose roots are provided with special contrivances for getting air. I think we, as fruit-growers, sometimes fail to realize as clearly as we should that when there is a period of prolonged wet weather during the growing or fruiting season the soil may become so full of water as to shut out the air and thus interfere with or practically bring to a standstill the vital activities of the fine feeding rootlets. As a matter of fact, many of the hair-like roots which



Dutton Beauty Apple Trees. No. 1—Grown in untilled ground. No. 2—Grown in tilled ground.

constitute the growing and feeding portions of the root system often die under conditions in which the soil is saturated with water to such an extent as to exclude the air. In recovering from such a setback it is necessary for the tree to renew these portions of its root system in order to start work again when the conditions change for the better and become favorable for growth. I believe that a clear understanding of this necessity of air for the roots is fundamental to the most intelligent management of either the nursery or the orchard. The providing for a proper supply of air in the soil may make all the difference between success and failure in orchard management.

It is not my purpose to undertake to tell you whether or not to tile your land, but I wish to urge that you study your soil for the purpose of learning what conditions exist there throughout the growing season and whether there are any critical periods during which the feeding roots are deprived of the oxygen which is necessary for their activity. Doubtless there are many orchard soils which, during much of the season, would not be benefited by tiling but in which during the critical periods the tile will be of great benefit by furnishing a ready outlet for surplus water and thus permitting of the movement of the air through the soil. A thoroughly wet soil does not necessarily exclude the air. If the water be stagnant it shuts out the air, but if the water be moving the air may still reach the roots.

The story is told of a California company that reclaimed some low land for growing celery. They provided for irrigation by pumping water on to the tract but, although plenty of water was supplied, the enterprise was not successful. The plantings did not do at all well. Finally another apparatus was installed by means of which the water was pumped out again; thus by pumping the water in at one end of the tract and pumping it out at the other it was found that the roots of the plants were furnished with sufficient air, so that they could grow successfully. After we have come to the realization of a necessity of air to the roots of our orchard trees it must necessarily be left to each orchardist to work out the details of the application of this principle and under his own peculiar conditions.

This morning a question was asked about protecting the foliage of orchard trees. All of us, I think, realize that in the foliage the crude material which has been taken up from the soil in the sap is combined with other material from the air, and by the aid of energy which comes with the sunbeams, is built up or changed into starch, sugars, and other compounds which the plant must have in order to grow, support its life and store away a supply of food for future use. This work is done only in the foliage or in other parts of the plant where there is leaf-green. The other parts of the tree itself are no more able to take the crude soil materials and subsist upon them than either you or I, but must first have them worked over into food which they can use. That is to say, those portions of the tree which are not green are just as much dependent upon the green parts of the tree for their nourishment as the ox is dependent upon the grass. This being so, it stands to reason that if one wishes to manage an orchard profitably he must look after the welfare of those parts of his trees in which the tree food is prepared, namely, the foliage.

In conclusion, I wish you to draw from what has been said about the importance to the tree of good foliage is simply this: Take good care of the foliage, protect it from insects and fungous diseases, and be sure that it has enough sunlight so that it can do its work. Do sufficient pruning so that a spray can pass readily through the tree top. Where trees are crowded so that they are growing too high while at the same time the under branches are dying out, thin out the trees so that the branches may spread low and so that the sunlight can play all around them.

I do not wish to be understood as favoring the reckless or indiscriminate cutting out of the whole center of a well-established tree. I have seen many orchards ruined by such treatment. Such advice may perhaps be all right for England and other regions where the climatic conditions approach to those which obtain in England, but for America, or at least those portions of it with which I have become acquainted, such treatment is not good orchard practice. In our climate the sun is too hot to justify exposing the center of the tree in this way after it has once become accustomed to the shade of large branches. But, on the other hand, I do believe in keeping the entire top of the tree uniformly open enough so as to let the light play upon the leaves and give them all a chance to do good work. I speak now in general terms. I believe that the color of the fruit is heightened where the leaves which supply that fruit with its food may be reached by the sunshine during at least a portion of the day. I do not believe in the theory that the fruit itself should be exposed to the sunlight in order to have it color well. You may say that the fruit in the top of the tree is better colored than that on the lower branches and that this argues in favor of the theory that the fruit colors best where it is most exposed to the sunlight but, while it is true that the fruit often develops best color in the extreme top of the tree, it should be remembered that in such cases the leaves that supply that fruit with its food are also freely exposed to the sunlight. If the tree be pruned so that the leaves on the lower branches may receive direct sunlight during at least some portion of the day, the fruit on those branches may be expected to show much improvement in color.

In conclusion, then, I would say that one of the fundamental principles of orchard management is to keep the soil in such condition that the roots may have so uniform a supply of both air and moisture that they can exercise their vital activities to the fullest extent. Another fundamental principle is the protection of the foliage from insects and fungous diseases and the training or pruning of the tree so that the sunlight may reach those leaves from which the fruit is to draw its chief supply of food.

THE MARYLAND AGRICULTURAL EXPERIMENT STATION.

DIRECTOR H. J. PATTERSON.

Mr. President, Ladies and Gentlemen:

In responding to the request of your Secretary to say something in reference to the work of the Experiment Station, I do so with some hesitancy; for I assure you I have no desire to inflict myself upon you on this occasion and take your time when you might be getting valuable information which could be put in practice immediately to the advantage of your business.

The past year has marked a new epoch in Experiment Station work of the United States through the enactment of what is known as the Adam's Act by Congress, which provides for each station an increased income to be used specifically for research work. This appropriation starts at $5,000, and is to be increased annually by $2,000, until it reaches $15,000 annually. This fund can be used only for investigations of a high character, which will result in adding new facts and knowledge on agricultural and horticultural subjects. The proper utilization of this fund in the direction for which it is intended will undoubtedly be of great advantage to the farmer. Maryland's Station has shared, not only in this appropriation from the United States Congress, but our own Legislature, through the solicitation of this Society, has also contributed funds for the Station work in making an appropriation for demonstration work and for horticultural investigations. The horticulturists of the State are to be congratulated upon this specific recognition of their business.

With the increase of funds we have already taken up new lines of research, and the work will be still further extended as rapidly as conditions will permit. It may be of interest to you to know something of the Experiment Station's organization for research work at the present time, and the lines of work in progress.

The force devoted to pure horticultural research consists of a horticulturist, two assistant horticulturists, a gardener, two regular laborers, and special laborers as needed. Besides these there is one man assigned to entomological investigations other than those necessitated by the State inspection work. Again, the horticultural department of the Station has the help of clerks, chemists, and general supervision, which is required from time to time. The investigations in progress by the horticultural department may be briefly summarized as follows:

I. CO-OPERATIVE STATE WORK.

1. Tests of the relative value of various potash salts on apples, pears, peaches and plums.
2. Tests of the effects of "Nitro-culture" on the production of peas and beans for canning purposes.
3. Variety tests of apples in tidewater and mountain sections.
4. Variety tests of peaches in tidewater and mountain sections.
5. Cultural methods on orchards in tidewater and mountain sections.
6. Small fruit tests in tidewater and mountain sections.
7. Pear breeding.
8. Methods of trellising grapes in tidewater and mountain sections.
9. Value of different stock for propagation of cherries.

II. GREENHOUSE WORK.

1. Carnation work to determine:
    - a. The value of different fertilizers.
    - b. The value of raised benches compared with solid beds.

c. The best time for setting plants.
d. Sub-irrigation as compared with surface watering.
e. How to strengthen the stems.

2. Tomatoes: To determine the distance apart, culture and training to take the maximum weight off each square foot of bench.

3. Lettuce: To study methods of culture to produce the maximum crop and to avoid disease.

4. Chrysanthemums: Cultural methods to produce the maximum crop of perfect blooms.

5. Tests of different methods of making green-house soils.

6. Fertilizers and soils for violets.

7. Soils for Easter lilies.

III. FRUIT TESTING.

1. A study of the best varieties and cultural methods of currants, gooseberries, and raspberries.

2. Strawberries.
a. Variety test.
b. Test of covering and mulching.
c. Test of crosses made by Mr. White.

3. Cover crops on the growth and productiveness of apples.

4. Grapes: A new vineyard of many varieties has been started. This is to ascertain the practicability of raising grapes in this region. In putting up the trellis, five different methods of training have been put under test.

5. Pears: Breeding to obtain better and more blight-resistant varieties.

6. Test of effects of frost on fruit buds.

7. Study of markets for Maryland products and system of packing for different markets.

IV. VEGETABLE CROPS.

1. Asparagus: Test of fertilizers.

2. Onions: Test of new and old methods of culture.

3. Irish Potatoes: Variety tests to determine disease-resistant types.

4. Sweet Potatoes: To determine the effect of the continuous use of the same land.

5. Fertilizer tests on various truck crops: Corn, peas, beans, etc.

V. OUTDOOR FLOWERS.

1. Study of various annual bedding plants.
2. Breeding of bedding plants.
3. Study of shrubs for lawn decorations.

I have taken the liberty to outline somewhat in detail the work of the horticultural department from the fact that there is a vacancy in the head of that department at present, owing to the resignation of Prof. W. N. Hutt. We are all very sorry to have Professor Hutt leave us, and we did all we could to retain his services; but the increased facilities and larger field for work which was offered in North Carolina induced him to accept the position there.

The detailed work of the other departments which are closely related to horticulture have been covered in the reports of the Pathologist, Professor Norton, and the Entomologist, Professor Symons.

I fully appreciate that many of you are interested in the experiments conducted by the other departments of the Station, and I should be glad to outline these to you, also, if time permitted, but for a list of those I would refer you to the Annual Reports of the Station.

The Station's work in horticulture, I believe, is in a better shape to-day than at any time in the history of the institution, and I believe that this department will give you much valuable information from time to time and be a great factor in the development of the horticultural possibilities of this State.

In conclusion, I would say that we want you to feel that the Maryland Experiment Station is your institution, and we stand ready to help you in every way possible, and we hope that you will feel no hesitancy in requesting our assistance on any horticultural or agricultural topic. We shall always be glad to see any of you who may find it convenient to pay us a visit, and look over our work in person.

Mr. Hopkins introduced the following resolution:

Resolved, That the Maryland Horticultural Society believes it to be to the best interests of the Maryland fruit-growers that a Fruit-Growers' Exchange be established in Baltimore city, and that the president of this meeting is hereby authorized to appoint a committee of nine, including himself, to take the necessary steps to incorporate the same.

REMARKS.

President R. W. Silvester.

BEING CALLED UPON FOR A REPORT FROM THE COMMITTEE APPOINTED TO CONSIDER "THE FRUIT-GROWERS' EXCHANGE."

I am here to get your reprimand, for I have done little during the past year in this connection. Horticulture needs no other factor for its development, so sorely, as it needs this exchange. I merely want to cite one or two instances. You know of the California Fruit Exchange? It speaks for itself. This Horticultural Society has within its ranks every factor of strength, from the standpoint of ability, from the standpoint of activity, that can possibly be found in the California Exchange, and I am sure this Society can accomplish a result equally as speaking for itself as is done in that very progressive Society of California.

If you will excuse me for a digression at this point, I will tell you what another Association in the State has done within the past year, The results are of very great interest to me, inasmuch as my own concerns are very greatly affected by it. The Tobacco-Growers' Association of Southern Maryland has been of great value to the growers during the past year. By their activity they have put at least two cents a pound upon the 25,000,000 pounds of tobacco raised by the five southern Maryland counties. Their progress has been slow, but every step has been deliberately taken. It is a difficult task to get from under the control of a body of men, when you have been contributing to their bank account for a series of years with as much regularity as the bluebirds build their nests in the spring. For fifty years this interest, consisting of 25,000,000 pounds of tobacco, has been paying tribute to men of Baltimore city and the French Government, just as regularly as we pay our taxes. But we made up our minds that this tribute has been paid long enough. Past history in the United States is "millions for defense, but not a penny for tribute," and I think the very self-same thing could be done with the horticultural interests of the State.

Now, the exchange will never be made by talking. You must act without further delay. You must organize at once. It is not too early to start a Fruit Exchange in Baltimore city for the coming year. The tobacco-growers, this year, after one year's experience, will establish their house in Baltimore city, where the product is to be sent.

There should be no question in the mind of any one of the three great canons of business life, as forming the basis upon which a product made by a farmer is to be sold. Now, what are these three great canons? First, interest on the investment; second, cost of production, and, third, a fair profit. On every farm and every orchard of this and every other State, the time is bound to come when you will price your products upon those three great canons of a successful business career, and if you cannot get it in one place, you will allways be certain to find it in another place—if you have a product which consumers want.

I believe to-day that we placed an average of two cents a pound on every pound of tobacco that was sold last year. True, it was something unheard of that we should dare to place a price upon our tobacco. We insisted that not one pound of Maryland tobacco graded as an "A," or a "B," or a "C," should be sold for less than 11, 8 and 6 cents, respectively. Hold it for these prices, was the command, and it was held.

You cannot do this with your perishable products, but you can at least do this: produce a uniformity of price by distributing your products to markets selling at the advance prices and thus relieve the congestion at points selling at unprofitable prices.

What reason is there for a crate of strawberries in Pittsburg to sell for 15 cents a quart, when the very same day these strawberries are sold in Baltimore city for 6 and 8 cents? Whose fault is it? Not the fault of the buyer. Human nature is the same the world over. These tables out here show the condition of apples and pears carried over the glut in Baltimore by cold storage. Suppose you had dumped them all on the market at one time, could the returns have been profitable? Your profit is dependent upon you disposing of your product in a business-like way. The farmer is bound to become a business man. He has not only to know how to grow the product, how to plant the product suited to different soils, but how to gather it, how to pack it, how to ship it, how to sell it. You say this is a very difficult task to perform. I do not think there is anything too big for the big-hearted, big-headed horticulturist of the State of Maryland, and I hope to see the time when a successful Fruit and Truckers' Exchange will be established in Baltimore city manned by the men here in the sound of my voice.

Down in the Peninsula of Virginia you know what has been done in regard to potatoes. There are men among you who can do it. I am not a horticulturist, and I have sense enough to know it.

If Professor Hutt could have been induced to remain with us, he was the man for you to consult in order to bring some concrete, well-digested plan before this Society and have devised the plans for a Horticultural Exchange.

As soon as the new horticulturist comes in—we have been scouring the country, and have done the best we can, and we hope the man will please you greatly when he comes—let the Executive Committee of this Society call him into consultation and tell him what you want, and if he is not equal to the task, let us try to find some other man, possessed of a brain of such fertility as to bring forth a plan which will match the excellent work done in California.

The President called for a report of the following committees:

REPORT OF THE AUDITING COMMITTEE.

We, the undersigned, as provided by the Executive Board, have audited the books of Thos. B. Symons, Treasurer of the State Horticultural Society up to October 31, 1906, and have found the same correct, and a balance remaining to the credit of the Society of $1,889.98. Respectfully submitted,

J. Spencer Lapham,
L. E. Hollingsworth,
Committee.

REPORT OF THE NOMINATING COMMITTEE.

Your Committee on Nominations begs leave to nominate as President of this Society Hon. Orlando Harrison, of Worcester county; as Vice-President, Charles E. Seybold, of the Gardeners' Club, Baltimore; for Secretary-Treasurer, Prof Thos. B. Symons, of the Maryland Agricultural College; as other members of the Executive Board, Messrs. E. P. Cohill, Hancock, Md., and J. W. Kerr, Denton, Md., and also the following county Vice-Presidents: Allegany, R. H. Gordon, Cumberland, Anne Arundel, J. S. Linthicum, Welhams; Baltimore, Richard Vincent, Jr., Whitemarsh; Calvert, F. O. Smith, Dunkirk; Caroline, J. Spencer Lapham, Goldsboro; Carroll, Henry Fuss, Union Bridge; Cecil, M. C. Reeder, Rising Sun; Charles, W. H. Gray, Port Tobacco; Dorchester, T. Harry Hopkins, Cambridge; Frederick, D. H. Hargett, Frederick; Garrett, W. McCulloh Brown, Oakland; Harford, Louis E. Hollingsworth, Joppa; Howard, W. S.

Powell, Ellicott City; Kent, Jas. S. Harris, Coleman; Montgomery, R. Bentley Thomas, Sandy Spring; Prince George's, Dr. E. P. Magruder, Gendale; Queen Anne, W. Irving Walker, Millington; St. Mary's, Jesse Turner, Laurel Grove; Somerset, F. E. Matthews, Pocomoke City; Talbot, Dr. Chas. Lowndes, Easton; Washington, A. L. Towson, Smithsburg; Wicomico, W. F. Allen, Salisbury; Worcester, C. M. Peters, Snow Hill.

Respectfully submitted,

R. VINCENT, JR.,
W. G. DAWSON,
A. L. TOWSON,
Committee.

REPORT OF COMMITTEE ON EXHIBITS

About 30,000 square feet of space on the floor of the Fifth Regiment Armory was occupied by the Society's Exhibits. The exhibit was many times as large as at any previous meeting. It was also more varied and representative, including many displays of fruits, vegetables and nuts, cut and potted flowers, ornamental shrubs, nursery stock, seeds and horticultural implements and supplies. The display of fruits was quite extensive, over 1,000 plates being on the tables. The State Horticultural Department also had instructive exhibits of insects, plant diseases, etc.

The value of spraying to secure clean and sound fruit was clearly shown; some of the largest and best-formed fruits shown being rendered worthless in appearance by fungous spots and mined internally by worms, all of which, the sprayed fruit exhibited showed, could have been easily prevented. The better exhibits will be repacked and stored to open the Society's exhibit at Jamestown in the spring.

The great value of the exhibition, from an educational standpoint was realized by a large number of school children, teachers and others of the city, largely kept from contact with the knowledge of such things so commonplace to the countryman. Such exhibits show the horticultural possibilities and resources of the State in a way that nothing else does; they develop a commendable pride in State ability and accomplishment; the fine products shown furnish a standard for the working members who see them, to maintain or surpass as well as give encouragement to beginners in the business.

Even though an exhibitor should take all the possible prizes on any collection of products offered, it would not be financially profitable to him. It is only through the public-spiritedness so well developed in our people and their interest in the welfare of our Society and State horticulture that such displays are possible. Some of the finest exhibits meant an outlay of $1.00 per plate to the one who made an effort to show them properly, not to speak of time spent in preparing them. The members, and the general public, are certainly indebted to the self-sacrifice and liberality of those who made the exhibit a success.

The fruit exhibited was arranged and cared for by J. B. S. Norton, W. R. Ballard, G. W. Firor, M. A. Hudson, E. H. Brinkley, F. E. Rumig, etc. Mr. G. P. Weldon was in charge of the vegetable exhibit. Mr. George Morrison was in charge of the exhibit of flowers, assisted on the floor by C. A. Reed and E. I. Oswald. Mr. Chas. L. Seybold and Mr. Morrison planned and supervised the general arrangement and decorative scheme of the exhibit space. The general features of the exhibit, the plan, arrangement and the great and largely thankless task of its collection was the direct work of the Secretary of the Society.

The following classified list gives the entry and name of exhibitors in each department. The name of fruit and, in some cases, vegetables have been corrected to the standards of the United States Department of Agriculture. In most cases when the approved name differs from that under which the product was exhibited the latter name is given first in parenthesis.

In all there were 577 entries, by 106 exhibitors, eighteen counties of the State being represented. Ninety-five varieties of applies were shown, fifteen varieties of pears, fifty of vegetables, and forty-two of nuts, as well as several other fruits and many kinds of flowers and ornamental plants.

J. B. S. NORTON, *Chairman.*

DEPARTMENT—FRUIT.

Class 1—Apples.

J. G. Harrison & Sons, Berlin, Md.—(Smith's Cider) Smith, Ben Davis, Domine, Smokehouse, Fallawater, (Roxbury Russett) Roxbury, and Winesap.

W. McCulloh Brown, Bayard, W. Va.—Baldwin, (Grimes Golden)

Grimes, Pewaukee, Golden Russett, York Stripe, Mann, (King of Tompkins) Tompkins King, Alexander, Belmont, Cabashea, Wealthy, and Porter.

G. W. Kitzmiller, Bayard, W. Va.—Gideon, Twenty Ounce.

A. Kitzmiller, Bayard, W. Va.—(Grimes Golden) Grimes, Sweet, Russett, (King of Tompkins) Tompkins King.

J. W. Harvey, Bayard, W. Va.—(Chenango Strawberry) Chenango.

Mrs. J. C. Bowman, Oakland, R. F. D., No. 2, Maryland—Siberian Crab.

David Enlow, Oakland, Md.—Wolf River.

Mrs. John Ridder, R. F. D. No. 2, Oakland, Maryland—Deacon Jones.

W. R. Mason, Oakland, Maryland, R. F. D. No. 2.—Summer Rambo, Baldwin, Sweet Russett, Jersey Sweet, Twenty Ounce, Mother, Lawver, Salome, Fameuse, Deacon Jones, Black Twig.

Peter Chrisholm, Gormania, W. Va.—Pewaukee, Fallawater, (King of Tompkins) Tompkins King.

Jos. M. Conneway, Oakland, Md., R. F. D. No. 2.—Fallawater.

Burt Wilson, Wilson, W. Va.—Smokehouse, Rambo.

Mrs. Riley Murphy, Gormania, W. Va.—(Rhode Island Greening) Rhode Island, Northern Spy, (Grimes Golden) Grimes, (Peter the Great) Peter (the Great), Summer Rambo, (King of Tompkins) Tompkins King, Twenty Ounce.

Geo. F. Nine, Bayard, W. Va.—Pewaukee, (King of Tompkins) Tompkins King, Pound Sweet.

David Slabach, Oakland, Md., R. F. D. No. 2.—Keswick, (Codling) Codlin.

Frank Layton, Bayard, W. Va.—York Imperial.

Jonas J. Spicker, Accident, Maryland.—Gravenstein.

John M. Browning, Oakland, Md.—Twenty Ounce.

Wm. A. Smith, Hoyes, Md.—Fallawater.

Jonas Bittinger, Accident, Md.—(King of Tompkins) Tompkins King.

F. E. Matthews, Pocomoke, Md.—Winesap.

J. S. Kelly, Preston, Md.—Domine, Shockley, (Smith's Cider) Smith, Stayman Winesap, Siberian Crab, Fallawater, Pippin, Kinnard, Jersey Greening, Fallawater, Maiden Blush, Black Twig, Red Pippin, and Arkansas Red.

W. B. Harris, Coleman, Md.—Stayman Winesap, Paragon, Ben

Davis, Fallawater, (Smith's Cider) Smith, (Lankford Seedling) Lankford, Early Harvest, York Imperial, Lawver, and Yellow Transparent.

Mrs. Ferndenberg, Deer Park, Md.—Ben Davis, (Roxbury Russett) Roxbury, Baldwin.

Thos. E. Bishoff, Hoyes, Md.—Northern Spy, Stark.

J. S. Miller, Grantsville, Md.—Smokehouse, Mother, Baldwin, Northern Spy, Ewalt.

John Bell, Chestertown, Md.—Winesap, Limbertwig, Ben Davis, York Imperial, (Spitzenburg).

E. P. Cohill, Hancock, Md.—Summer Rambo, Wagener, York Imperial, Ben Davis.

Miss D. E. Kelly, Preston, Md.—Arkansas Red, Stayman Winesap, Shockley, Red Pippin, Fallawater, Black Twig, (Smith's Cider) Smith, Kinnard, Red Siberian Crab, Domine.

A. M. Wolfinger, Hagerstown, Md.—Jonathan, Winesap.

Mrs. A. W. Lawrence, Hagerstown, Md.—York Imperial, Winesap, (Missouri Pippin) Missouri, Haas, Blackstripe, Crab Apples, Sheredown Pippin.

S. S. Stouffer, Sharpsburg, Md.—Fallawater, (Rome Beauty) Rome, (Roxbury Russett) Roxbury, Ben Davis, (Grimes Golden) Grimes, Golden Russett, King, Baldwin.

Mr. Jeff Shanklin, Loch Raven, Md.—(Rome Beauty) Rome, York Imperial, Ewalt.

J. Spencer Lapham, Goldsboro, Md.—Pewaukee, Ben Davis, (Grimes Golden) Grimes, York Imperial (Mammoth), Black Twig, Winesap, (Missouri Pippin) Missouri, (Rome Beauty) Rome.

Miss Maude Martin, Hagerstown, Md.—Nickajack.

Mrs. Herbert Bergan, Williamsport, Md.—Wine, Winesap, Rambo, York Imperial.

J. S. Barnhardt, Denton, Md.—(Belleflower), Wine.

Miss Florence Beachley, Hagerstown, Md.—Redstripe, York Imperial, York Stripe, Haas, King, Northern Spy.

J. S. Jackson & Bro., Goldsboro, Md.—(Roxbury Russett) Roxbury, Baldwin.

W. H. Swiggett, Goldsboro, Md.—(Grimes Golden) Grimes.

D. O. Snively, Goldsboro, Md.—Ben Davis, Baldwin, Fallawater, York Imperial, York Stripe, Stark, Winesap.

Mrs. J. Johnson, Easton, Md.—Paragon.

G. M. Kinnaman, Easton, Md.—(Grimes Golden) Grimes, Ben Davis.

Dr. Charles Lowndes, Easton, Md.—Fallawater, Winesap, York Imperial, (Smith's Cider) Smith.

H. H. Lansdale, Easton, Md.—Winesap.

E. H. Snyder, Hagerstown, Md.—Northern Spy, Nero, (Grimes Golden) Grimes, (Albemarle Pippin) Yellow Newton, Summer Rambo, York Imperial.

Oscar Collier, Easton, Md.—(Roxbury Russett) Roxbury, (Hay's Red Streak) Nickajack, Winesap, Newton Pippin, York Imperial.

Mrs. Reimer, Easton, Md.—Russett.

J. W. Brandt, Upper Falls, Md.—York Imperial.

J. P. Blessing, Brownsville, Md.—Fallawater.

M. C. Reeder, Rising Sun, Md.—Yellow Transparent.

G. L. Kisling, Bel Air, Md.—(Grimes Golden) Grimes, York Imperial, Winesap, (Smith's Cider) Smith, Fallawater, Ben Davis.

R. W. Phelps, Forest Hill, Md.—Northern Spy, Golden Russett, York Stripe, Buffin, Delaware Winter, Domine, (Vandiver) Vandevere, (Nansemond Beauty) Nansemond, Smokehouse, (Rome Beauty) Rome.

J. W. Phelps, Forest Hill, Md.—Domine, Ben Davis, (Rome Beauty) Rome, Katherine, (Smith's Cider) Smith, (Winter Sweet Russett) Red Robinson.

David Walls, Barclay, Md.—Ben Davis.

Claude Dutrow, Adamstown, Md.—Red Streak, (Vandiver) Vandever, (Rawle's Jeanette) Ralls, James River, (Belleflower), Winter Rambo, (Roxbury Russett) Roxbury, Grindstone, Ben Davis, Winesap.

W. H. Whike, Greenmount, Md.—Stark, (Walter Pease) Pease, Twenty Ounce, Plum Pippin, Green Pippin, Gano, Pewaukee, Wealthy, Fallawater, York Imperial, Green Fall Pippin, Winesap, Wagener.

P. B. Welsh, Glen Morris, Md.—Winesap, Domine, Golden Russett, (Mammoth Black Twig) Black Twig.

C. I. Bikle, Smithsburg, Md.—Hoover.

W. W. Cobey, Liverpool, Md.—Winesap, Johnston, Ben Davis.

H. H. Miller, Sandy Spring, Md.—Shockley, Smokehouse, Winesap, (Grimes Golden) Grimes, Fallawater.

R. Bentley Thomas, Sandy Spring, Md.—Stayman Winesap, (Mammoth Black Twig) Black Twig, Arkansas, (Smith's Cider) Smith, York Imperial, Kinnard, Ben Davis, (Grimes Golden) Grimes.

F. J. Downey, Sandy Spring, Md.—Paragon, York Imperial, Winesap, Nero, Stayman Winesap, Newton Pippin, Ben Davis, Golden Pippin.

D. H. Hargett, Frederick, Md.—Hargett, Mamma's Favorite

Samuel Garner, Annapolis.—Winesap.

Class 5—Pears.

J. G. Harrison & Sons, Berlin, Md.—Lawrence, Vicar, Kieffer, Garber, Leconte.

Jas. Bell, Chestertown, Md.—Lawrence, Kieffer.

J. S. Kelly, Preston, Md.—Leconte, Japanese Russett, (Duchess) Angouleme, Seckel, (Bonne De Jersey) Lincoln, Angela, Kieffer, Vicar.

C. W. Butler, Barclay, Md.—Kieffer.

W. B. Harris, Coleman, Md.—Kieffer.

J. R. Hurlock, Ralphs, Md.—Kieffer.

J. S. Barnhardt, Denton, Md.—Seckel.

S. B. Loose, Edgemont, Md.—Garber, Kieffer.

Miss D. E. Kelly, Preston, Md.—Kieffer, Vicar, (Duchess) Angouleme, Leconte, Japanese Golden, Garber, Lawrence, (Bonne De Jersey) Lincoln, Chinese Sand Pear, Bartlett, Seckel, Angelus.

E. L. Tallisman, Nyack, N. Y.—Louise, (Bonne De Jersey).

Mrs. Dr. C. McCunley, Hagerstown, Md.—Garber.

Mrs. Jeff Shanklin, Loch Raven, Md.—Kieffer, (Buerre De) Anjou, (Duchess) Angouleme.

J. Spencer Lapham, Goldsboro, Md.—Kieffer, Garber.

A. L. Towson, Smithsburg, Md.—Belgian.

J. S. Barnhardt, Denton, Md.—Bartlett.

W. D. Roe, Sudlersville, Md.—Kieffer.

Z. T. Reynolds, Preston, Md.—Lawrence.

Mrs. J. Johnson, Easton, Md.—Kieffer.

Dr. Chas. Lowndes, Easton, Md.—Kieffer.

Oscar Collier, Easton, Md.—Kieffer, (Duchess) Angouleme.

J. P. Blessing, Brownsville, Md.—Leconte, Easter, (Buerre) Japanese Golden Russett, Kieffer, Lincoln.

G. L. Kisling, Bel Air, Md.—Kieffer.

R. W. Phelps, Forest Hill, Md.—(Duchess) Angouleme, (Buerre De) Anjou, Seckel, Bartlett.

J. W. Phelps, Forest Hill, Md.—Lawrence.

Experiment Station, College Park, Md.—Kieffer.

David Walls, Barclay, Md.—Kieffer.

Franklin S. George, Forest Park, Md.—Kieffer.

P. B. Welsh, Glen Morris, Md.—Seckel.

C. I. Bikle, Smithsburg, Md.—Kieffer.

Class 6—Grapes.

S. B. Loose, Edgemont, Md.—Concord, Niagara.

Mr. Jones, Beltsville, Md.—Moores Early.

Class 7—Quinces.

Miss D. E. Kelly, Preston, Md.—Japanese Quinces.

Class 8—Peaches.

A. L. Towson, Smithsburg, Md.—Salway.

Class 9—Canned Fruits and Jellies.

Mrs. Chattingham, Preston, Md.—Canned Pears, Strawberries, Cherries, Peaches, Quinces, Crab Apple Jelly, Currant Jelly, Quince Jelly, Blackberries, and Plums.

Mrs. Thomas Chillcoat, Philopolis, Md.—Preserves: Watermelon, Apples, Quinces, Pineapples, Yellow Tomatoes, Cherries, Blackberries, Raspberries, Damsons, and Cranberries. Jellies: Cherry, Peach, Pear, Apple, Cranberry, Raspberry, Mint, Pineapple, Quince, Fox Grape, and Crab Apple. Pickles: Cucumbers, Nasturtiums, Tomatoes, Chow-chow, French Pickle, and Peppers. Marmalades: Peach, Pear, Plum, Cherry. Canned: Cherries, Quinces, Peaches, Pears, Raspberries and Pineapple.

Miss Belle Breckenridge, Govans, Md.—Canned: Peaches (three varieties), Pears (two varieties), Pineapple, Cherries, Apples, Quinces, Plums, Blackberries, Whortleberries, and Tomatoes. Preserved: Pears, Plums, Peaches, Pineapples, Quinces, Gooseberries, Currants, Figs, Strawberries, Tomatoes, Watermelon rind, Grapes, and Crab Apple and Spiced Pears. Jellies: Currant, Cherry, Crab Apple, Grape, Pear, Peach, Blackberry, Raspberry, Quince, Apple, Cranberry, and Strawberry.

DEPARTMENT—VEGETABLES.

Class 11—Potatoes.

Jas. Bell, Chestertown, Md.—Early Rose.

C. D. Sprecher, Hagerstown, Md.—Strawberry, First and Best, Wonder of the World, Early Harvest, Somerset Rose, Arostook, Gem, Planet, Maules Early Thorobred, Mills Prize, Early Petaskey, Short Season, Everybody's Choice, Peach Blow, Early Bird.

Ezra Kretsinger, Funkstown, Md.—Rural Yorkers.

Sam Rush, Hagerstown, Md.—Worlds Fair, White Triumph, Sunrise, Washington, White Ohio, Brattles Best, Victor.

Wm. Murdock, Hagerstown, Md.—Irish Cobbler, Extra Early.

C. D. Sprecker, Hagerstown, Md.—Early Ohio, Blue Peerless, Burbank, York Rose, Early Value, White Star, Everetts Abundance, Snow White, Sensation.

F. E. Matthews, Pocomoke, Md.—Irish Cobbler.

A. M. Wolfinger, Hagerstown, Md.—Blue Peerless.

W. H. Gray, Port Tobacco, Md.—Sir Raleigh, Irish Cobbler.

Mrs. A. M. Lawrence, Hagerstown, Md.—Early Rose, Bovey, Blue Peerless.

Class 12—Miscellaneous.

Mrs. Jos. A. Bauer, Timonium, Md.—Brocoli, Turnips, Danish Sprouts, Brussels Sprouts, Blood Beets, Parsnips.

Zachariah Albun, George's Creek, Md.—Parsnips.

J. P. Blessing, Brownsville, Md.—Minnesota Sugar Corn, Mammoth Dent Corn, Canteloupes.

Chas. Velty, Baltimore, Md.—Hubbard Squash.

Mrs. Thos. Chillcoat, Philopolis, Md.—Gourds, Yellow Globe Onions, Pear Onions.

George Morrison, Uplands, Md.—Vegetable collection.

Mrs. A. M. Lawrence, Hagerstown, Md.—Sweet Potato, Celery, and Grand Rapids Lettuce.

DEPARTMENT—FLOWERS.

Class 15—Roses.

Geo. Morrison, Uplands, Md.—American Beauty, White Roses.

Stevenson Bros., Govanstown, Md.—Pink Rose.

I. H. Moss, Govanstown, Md.—Pink Rose, White Rose.

John Cook, Baltimore, Md.—Red Rose, Pink Rose, White Rose, American Seedling.

Class 16—Carnations.

Geo. Morrison, Uplands, Md.—Lawson Shade, Red.

A. J. Tourney, West Arlington, Md.—Lawson Shade, Red.

Stevenson Bros., Govanstown, Md.—Light Pink.

I. H. Moss, Govanstown, Md.—Lawson Shade, Light Pink, White, Variegated, Pink Enchantress.

John Cook, Baltimore, Md.—American Seedling.

H. Weber & Sons, Oakland, Md.—American Seedling.

Class 18—Miscellaneous.

Geo. Morrison, Uplands, Md.—Cypripedium.

F. C. Bauer, Govanstown, Md.—Mignonette.

Geo. Morrison, Uplands, Md.—Gloire de Lorraine.

Foliage Plants.

Geo. Morrison, Uplands, Md.—Rex Begonia, Croton (12 other species).

Ed. Herrmann, Baltimore.—Various foliage plants.

Class 19—Chrysanthemum.

Chris. Gregorius, Baltimore, Md.—Jennie Nonin Quito.

Ed. Herrmann, North and Milton Ave., Baltimore, Md.—Dr. Engehart.

Class 20—Bulbs.

R. Vincent, Jr., Whitemarsh, Md.—Madeira Vine, Dahlia, Ipomea, Canna, Caladium.

DEPARTMENT—NUTS.

Class 13.

S. B. Loose, Edgemont, Md.—Chestnuts.

J. P. Blessing, Bronwsville, Md.—Persian Walnuts.

Miss D. Kelly, Preston, Md.—Chestnuts.

J. W. Kerr, Denton, Md.—Merville de Ballwiller, Louise Papershell, Norton, Grasse Langne, Grasse Ronde, Prolifique a Coque, Imperatrice Eugenie, Oblique, English, Senator Roe, Denton, Burchard, Deweese, Jump, Kinsley Black Walnut Champion, Arrow Head, Bryan, Kerr, Japan Walnut Cardiformis, Butternut, Kerr (Japan), Dr. Black (Japan), Ridgely (European), Japan Walnut, Sieboldiana, Roosevelt, Paragon, Black Walnut (Gary Thinshell), Martin (Japan), Kebo Hybrid, Numbo (European), Biddle (Japan), Kentish Cole, Tenilles, Pomprese, Garaboldi, De Brunswick, Waugh, Imperial.

W. McCulloh Brown, Bayard, W. Va.—Walnuts, Butternuts, Chestnuts, Hickorynuts, Beachnuts.

Geo. Balderson, Colora, Maryland.—Hickorynuts, English Walnuts, Chestnuts.

J. S. Kelly, Preston, Md.—Chestnuts.

REPORT OF JUDGES OF FRUITS.

We, the undersigned, do hereby submit to you our findings in the relative merits of the exhibits, including a list of the varieties and samples, which, in our best and unbiased judgment, were entitled to the recognition which they sought.

Thanking you very heartily for the honor conferred upon us.

Respectfully submitted,

W. N. Irwin,
C. P. Close,
W. F. Fletcher.

PRIZES IN FRUIT.

Class 1—Apples, State Collection.

First, W. McCulloh Brown, Bayard, W. Va.; second, W. B. Harris, Coleman, Md; third, J. S. Kelly, Preston, Md.

Class 2—Apples, County Collection.

First, Garrett county; second, Washington county.

Class 3—Apples, Special Premium.

Ben Davis—First prize, R. Bently Thomas, Ednor, Md; second, D. O. Snively, Hagerstown, Md.

Stayman Winesap—First, R. Bently Thomas, Ednor, Md.; second, W. B. Harris, Coleman, Md.

Winesap—First, Sam'l Garner, Annapolis, Md.; second, J. Spencer Lapham, Goldsboro, Md.

York Imperial—First, J. Spencer Lapham, Goldsboro, Md.; second, D. O. Snively, Hagerstown, Md.

Class 4—Apples, Single Dishes.

Alexander—First, W. McCulloh Brown, Bayard, W. Va.

Baldwin—First, J. S. J. Miller, Grantsville, Md.; second, D. O. Snively, Hagerstown, Md.

Domine—Second, R. W. Phelps, Forest Hill, Md.

Jonathan—Second, A. M. Wolfinger, Hagerstown, Md.

Sweet Russett—First, W. H. Swiggett, Goldsboro, Md.; second, Wm. R. Mason, Oakland, Md.

Twenty Ounce—First, Wyman Kitzmill, Bayard, W. Va.; second, Wm. R. Mason, Oakland, Md.

Wealthy—First, W. McCulloh Brown, Bayard, W. Va.; second, W. H. Whike, Greenmount, Md.

Fallawater—First, J. M. Conneway, Oakland, Md.; second, W. A. Smith, Hoyes, Md.

Golden Russett—First, Wm. McCulloh Brown, Bayard, W. Va.; second, S. S. Stouffer, Sharpsburg, Md.

Grimes (Golden)—First, W. H. Swiggett, Goldsboro, Md.; second, S. S. Stouffer, Sharpsburg, Md.

Nero—First, E. H. Snyder, Hagerstown, Md.

Rambo—Second, Mrs. H. Burgan, Williamsport, Md.

Rome (Beauty)—First, J. Spencer Lapham, Goldsboro, Md; second, S. S. Stouffer, Sharpsburg, Md.

Hoover—First, C. I. Bikle, Smithsburg, Md.

Tompkins King (King of Tompkins)—First, Jonas Bittinger, Accident, Md.; second, W. McCulloh Brown, Bayard, W. Va.

Lankford (Seedling)—First, W. B. Harris, Coleman, Md.

Mother—First J. S. Miller, Grantsville, Md.; second, W. R. Mason, Oakland, Md.

Northern Spy—First, W. McCulloh Brown, Bayard, W. Va.; second, Thos. E. Bishoff, Hoyes, Md.

Stayman Winesap—First, R. Bentley Thomas, Sandy Spring, Md.; second, W. B. Harris, Coleman, Md.

Shockley—First, H. H. Miller, Sandy Spring, Md.; second, Miss D. E. Kelly, Preston, Md.

Smith (Cider)—First, W. B. Harris, Coleman, Md.; second, R. Bentley Thomas, Sandy Spring, Md.

Summer Rambo—First, Wm. R. Mason, Oakland, Md.; second, E. P. Cohill, Hancock, Md.

Winesap—First, J. Spencer Lapham, Goldsboro, Md.; second, F. E. Matthews, Pocomoke, Md.

Wolf River—First, David Enlow, Oakland, Md.

Yellow Bellflower—First, J. S. Barnhardt, Denton, Md.; second, Claude Dutrow, Adamstown, Md.

Yellow Transparent—First, W. B. Harris, Coleman, Md.

York Imperial—First D. O. Snively, Hagerstown, Md.; second, E. H. Snyder, Hagerstown, Md.

Chenango—First, John W. Harvey, Bayard, W. Va.

Siberian (Crab)—First, Mrs. John C. Bowman; second, E. C. Praither.

Esopus (Extra Special; Spitzenburg)—First, John Bell, Chestertown, Md.

Hargett—First, D. H. Hargett, Frederick, Md.

Mamma's Favorite—First, D. H. Hargett, Frederick, Md.

Porter—First, W. McCulloh Brown, Bayard, W. Va.

Roxbury (Russett)—First, S. S. Stouffer, Sharpsburg, Md.

Wine—First, J. S. Barnhardt, Denton, Md.

Ohio Nonpareil—First, E. H. Snyder, Hagerstown, Md.

Unknown—First, J. W. Brandt, Upper Falls, Md; second, Philip B. Welsh, Glen Morris, Md.; third, R. Bentley Thomas, Sandy Spring, Md.

Class 5—Pears.

General collection—First, Miss D. E. Kelly, Preston, Md.; second, W. B. Harris, Coleman, Md.

Bartlett—First, J. S. Kelly, Preston, Md.

Beurre Bosc—First, E. L. Tallisman, Nyack, N. Y. (no premium).

Kieffer—First, J. G. Harrison & Son, Berlin, Md.; second, S. B. Loose, Edgemont, Md.

Lawrence—First, J. G. Harrison & Son, Berlin, Md.; second, J. Spencer Lapham, Goldsboro, Md.

Seckel—First, J. S. Barnhardt, Denton, Md.; second, P. B. Welsh, Glen Morris, Md.

Japan Russet—First, J. S. Kelly, Preston, Md.

Vicar—First, Miss D. E. Kelly, Preston, Md.

Class 6—Grapes.

Concord—First, S. B. Loose, Edgemont, Md.

Moore's Early—First, J. Jones, Beltsville, Md.

Niagara—First, S. B. Loose, Edgemont, Md.

Stark Star—D. H. Hargett, Frederick, Md.

Class 7—Quinces.

Meaches Prolific (½ peck)—First, C. I. Bikle, Smithsburg, Md.

Chinese (½ peck)—First, Isaac Poole, Preston, Md.

Class Special Peaches.

Salway—First, A. L. Towson, Smithsburg, Md.

Class 13—Nuts.

Best collection (all kinds)—First, J. W. Kerr, Denton, Md.; second, W. McCulloh Brown, Bayard, W. Va.

Twelve varieties Hickorynuts—First, J. W. Kerr, Denton, Md.

Chestnuts, collection—First, J. W. Kerr, Denton, Md.; second, S. B. Loose, Edgemont, Md.

Filberts, collection—First, J. W. Kerr, Denton, Md.

Class 8—Canned Fruit and Jellies.

General collection—First, Miss Belle Breckenridge, Govanstown, Md.; second, Mrs. Thos. Chilcoat, Philopolis, Md.

Canned Peaches—First, Miss Belle Breckenridge, Govanstown, Md.; second, Mrs. Thos. Chilcoat, Philopolis, Md.

Canned Pears—First, Miss Mollie B. Bikle, Hagerstown, Md.; second, Mrs. Thos. Chilcoat, Philopolis, Md.

Canned Plums—First, Miss Mollie B. Bikle, Hagerstown, Md.; second, Mrs. Thos. Chilcoat, Philopolis, Md.

Canned Cherries—First, Miss Mollie B. Bikle, Hagerstown, Md.; second, Miss Belle Breckenridge, Govanstown, Md.

Canned Blackberries—First, Miss Belle Breckenridge, Govanstown, Md.

Preserved Currants—First, Miss Belle Breckenridge, Govanstown, Md.

Preserved Cherries—First, Miss Belle Breckenridge, Govanstown, Md.

Preserved Plums—First, Miss Belle Breckenridge, Govanstown, Md.

Preserved Strawberries—First, Miss Belle Breckenridge, Govanstown, Md.

Preserved Quinces—First, Miss Belle Breckenridge, Govanstown, Md.; second, Mrs. Thos. Chilcoat, Philopolis, Md.

Crab Apple Jelly—First, Mrs. Thomas Chilcoat, Philopolis, Md.; second, Miss Belle Breckenridge, Govanstown, Md.

Currant Jelly—First, Miss Belle Breckenridge, Govanstown, Md.; second, Miss D. E. Kelly, Preston, Md.

Quince—First, Mrs. J. Shanklin, Loch Raven, Md.

REPORT OF THE JUDGES OF VEGETABLES.

Your committee would report that the exhibition of vegetables, with the exception of potatoes, was not so large as the reputation of Maryland horticulturists would lead one to expect and, with a few exceptions, the exhibits were not equal in quality to those of fruit and flowers and that, in many cases, exhibits were disqualified because of lack of the desired quantity.

Class 10—Collection of Vegetables.

Entry 80.—First to entry No. 25 by Geo. Morrison. This entry contained Tomatoes, Turnips, Carrots, Kale, String Beans, Cabbage, Spinach and Lettuce, Beets, Onions, Celery and Cucumber. The Cucumber, Spinach, Tomatoes and Carrots were especially fine.

Entry 6, by Jos. A. Barnes. This entry was made up also of exhibits entered as individual vegetables, and by common ruling would not be eligible for competition as a collection, but by the request of the officers of the Society it was judged as a collection and awarded third premium.

The Maryland Agricultural College made a very creditable exhibit of vegetables, which were not entered for premiums.

Class 11.

Entry 81.—Collection of Irish Potatoes, at least five varieties. First premium to C. D. Sprecker; second premium to Sam'l Black.

There was also a number of entries of less than five varieties, some of which were of superior quality.

Entry 82.—Sweet Potatoes. No qualified entries.

Entry 83.—Cabbage. No qualified entries.

Class 12—Miscellaneous.

Entry 84.—Celery. Second premium to J. A. Bauer.

Entry 85.—Kale. First premium to J. A. Bauer.

Entry 86.—Spinach. No entries.

Entry 87.—Parsnips. First premium to J. A. Bauer.

Entry 88.—Turnips. Second premium to J. A. Bauer.

Entry 89.—Carrots. First premium to exhibit of three varieties of good quality and well shown by Geo. Morrison, who also showed some excellent leeks and celeriac.

Entry 93.—Lettuce. Second premium to Geo. Balderston.

Class 14—Seeds.

There were no qualified entries under this class, but the committee would call special attention to the correctly-named weed seeds made by the Botanical Department of the Maryland Agricultural College.

Respectfully submitted,

W. W. Tracy,
A. Herrington,
W. H. Duckham,
Committee.

REPORT OF THE JUDGES OF FLOWERS AND PLANTS.

The competition in the cut flower classes did not prove as keen as the liberal character and number of the premiums might have been expected to bring forth, but we note with pleasure the commendable quality of the exhibits that were presented.

In several instances it was necessary to disqualify what in other respects were winning exhibits because the exhibitors failed to comply with the stated conditions of the schedule. Attention of the exhibitors should be drawn to this matter, and they be advised to exercise a careful count before final staging.

The awards as made are as follows:

American Beauty—First, Geo. Morrison.

Red Rose, other than American Beauty—First, Stevenson Bros; second, John Cook.

Pink Rose—First, Stevenson Bros.; second, John Cook.

White—First, John Cook; second, I. H. Moss.

Class 16—Carnations.

Lawson Shade—First, I. H. Moss; second, A. J. Torney.

Light Pink—First, Geo. Morrison.

Red—First, Geo. Morrison.

Variegated—First, I. H. Moss.

Best American Seedling, never disseminated—First, The H. Weber & Sons Co.; second, John Cook.

Class 18—Miscellaneous.

Mignonette, twelve spikes—First, F. C. Bauer.

Cypripedium—First, Geo. Morrison.

Class 19—Flowering Plants.

Begonia (other than Gloire de Lorriane)—First, Geo. Morrison.

Cypripedium—First, George Morrison.

Class 20—Foliage Plants.

Rex Begonia group—First, Geo. Morrison.

Foliage plants, six species—First, Geo. Morrison.

Class 21—Bulbs.

Best collection of Bulbs and Roots—First, R. Vincent, Jr., & Son. The lot included roots and tubers of Madeira Vine, Dahlias, Ipomeas, Cannas and Caladiums.

A special prize is recommended to be given Mr. Ed. Herrman for a group of flowering plants.

Special mention is also made of a wreath of Camelia Japonica exhibited by Mr. Edward Kress, of Baltimore, and of a collection of single-flowered Chrysanthemums shown by Mr. Chas. H. Totty, Madison, N. J., and of cut Chrysanthemum flowers shown by Mr. E. Herrman and the Pimlico Greenhouses.

Respectfully submitted,
ARTHUR HERRINGTON,
WM. H. DUCKHAM.

THURSDAY, 7:45 P. M.

Previous to calling the meeting to order, Governor Warfield arrived and was escorted over the Armory to observe the exhibition, and held an informal reception.

The meeting was called to order by the President, who introduced His Excellency Governor Warfield, as the first speaker.

ADDRESS.

GOVERNOR EDWIN WARFIELD.

Ladies and Gentlemen:

I am pleased to be here, and I am very glad to do anything I can to encourage the work of this magnificent organization. You see I have some of the products of the State in my hand. I am very fond of apples.

I read with pleasure in the *News* this afternoon of the tons of apples that are eaten in Baltimore city. But I was sorry to note that the majority of them came from Missouri and Illinois and New York. This should not be the case. I believe when you meet here, five years hence, you will then find that the apples eaten in Baltimore city will have been grown in the State of Maryland. Such a result will be brought about by the work of this Horticultural Society.

There is no reason why every farmer, every man who owns an acre of land, should not have on his table at every meal, the year round, good apples to eat, or fruits that are in season, and I believe that through the work of this organization, and the Maryland Agricultural College, that will be the case in the near future. Apples are very healthful, and there is nothing better than to have a nice one just before you go to bed. Here is an apple grown in Washington county. I shall take it home to Mrs. Warfield as a sample of Maryland apples.

When I left home this evening Mrs. Warfield said to me, "Well, Governor, I would like to go with you this evening because I love fruit and flowers because they mean so much in the lives of our people. Please tell the members of the Society how truly I regret my inability to accompany you."

I am not going to talk to you very long. I wish, however, to say to the members of this organization, you who are interested in the cultivation of fruit, that the Legislature made an appropriation last year of $12,500 to encourage the development of fruit culture in the State of Maryland.

The Jamestown Exposition Commission has appropriated $5,000 to your Society for an exhibition of the fruits and flowers of the State. Therefore, I want to impress upon you the importance of making special efforts during the coming year to produce splendid fruit so that we can show the visitors to the Jamestown Exposition what Maryland can do in fruit culture. This appropriation cannot produce the exhibit we want unless the men who are specially interested in the horticultural development of our State co-operate. And I ask that you will co-operate with the Commission and with the Agricultural College in raising such fruit as will make a splendid exhibition at Jamestown.

I have been very much impressed in my travels throughout the State, since I have been Governor, with the interest that is being taken in the culture of flowers. Nothing is more refining in a home than beautiful flowers. There is no reason why every farmer, every owner of a little home, should not have upon his table at each meal some beautiful flower, a rose, or carnations, or chrysanthemums, all of which are easily grown.

I remember once going into an humble home of a man who was working on a farm for $12.50 a month. He had his house rent, firewood and garden free. I saw the table set for his midday meal, and in the center of the table was a little vase holding two or three flowers. Everything was neat and tidy and the very presence of those flowers perfumed the room and gave an air of refinement to that humble home.

The happiest homes are the simple, pure and clean ones, and when they are refined and made fragrant with flowers are abodes of greater contentment than the palaces of the millionaire. You know wealth does not always bring happiness.

Maryland should take first rank as a fruit-growing State, and I believe she will under the inspiration and guidance of your organization.

I am delighted to know that your president is a man who realizes the future of fruit-growing in this State. He has already planted many acres in apples on his farms in Washington county. He has laid the foundation for a handsome return from this land in the future. If he does not enjoy it, those that come after him will.

I said to this Society a year ago that the farmers of Maryland owe to the traveling agent of the nurserymen a debt of gratitude. There are many farms that have upon them flowers and luscious fruit that they never would have had had it not been for the intelligence and perseverence of these agents.

I remember very well, as a boy, how pleased I was when my father would ask the "Treeman" to spend the night, because I wanted the pleasure of looking over his books to see the beautifully colored pictures of the delicious-looking fruit. Before leaving the next morning he would make a sale to my father largely through the pictorial plates. I am to-day enjoying the fruits of the energy and labors of those nursery agents who visited my father's home forty years ago.

I am a great admirer of chrysanthemums, and as I understand there is a gentleman here from New Jersey who is going to talk to you about that beautiful flower, which has become so popular with all lovers of flowers, I will not detain you longer. It is astonishing to what perfection they have been brought by intelligent cultivation. This is largely due to your efforts in educating the florists to conduct their business scientifically. Fruit and flower culture is accomplishing wonderful results for the State of Maryland, and as the Chief Executive of this State I thank you for the good you are doing. Keep up your good work.

No farmer can now succeed who sticks to the old custom of rotation of crops, of corn, wheat and grass, year in and year out. He must look after the fruit end of his business. If he can raise one hundred barrels of apples and sell them at $2.50 a barrel, see what a nice return he will receive for a small amount of labor. That will pay the hire of a hand.

If he can sell, in season, strawberries and raspberries and currants, see what can be added to the revenue of his farm. All of these fruits can be grown with little extra attention and without interfering with the other leading crops. The difficulty with so many farmers who plant fruit is that they expect it to grow to perfection without any attention. You are arousing an interest and showing that it can and should become a diversion and pleasure to the owner of a place to look after the growth of your tree just as much as you look after the growth of stock and the children.

You are increasing the wealth of Maryland by what you are doing. It now gives me pleasure to hand you over to the gentleman who will tell us about the chrysanthemum.

THE CHRYSANTHEMUM.

A. HERRINGTON, *Florham Park, N. J.*

What can I say about the Chrysanthemum that will be of interest or merit your attention? You all know the flower, are familiar with its many forms and types, know something of its widespread popularity; its ancient history; and I hope you will agree with me as to its indispensability. The Rose, Carnation and some other flowers we have with us always, but there is a limited time and place for the Chrysanthemum, and I have no hesitation in predicting that it will long continue to hold that place, and fill its appointed niche in the temple of Flora's fairest flowers.

The gradual evolution of the Chrysanthemum from its tiny daisy-like flowers up to the highest types of its present-day magnificence, has been the work of centuries, but this is a matter of historical interest chiefly, a matter of record of past achievements, and it would serve no practical purpose to enlarge upon it here. A few days ago, however, I was reading an European horticultural publication and came upon an item of news as follows:

"At a banquet given the jurors and officials of the French National Chrysanthemum Society at Caen, on November the 8th, it was reported by the Secretary, M. Phillipe Rivoire, that he had recently learned of the actual poverty of the two granddaughters of M. Pierre Blancard, who in 1789 introduced from China into Europe the first large flowered Chrysanthemum, the actual prototype of our present-day large flowered varieties." The item continues: "The French Society at once started a subscription list for the benefit of the ladies in question now living in London."

The incident is pathetic, but it has been often so with pioneers. The act of M. Blancard has acquired greater glory because we look back down a vista of more than a century of years, and review it from the standpoint of present attainments. Since 1789 men have come and men have gone, whose names are emblazoned upon the scroll of Chrysanthemum history, and it is now incumbent upon us who have received this precious and beautiful floral heritage to maintain it unimpaired, and not this alone, for our best efforts should be employed to add further lustre to the record of our day and time to further amplify the beauty and enhance a still greater interest in the flower for which we are the sponsors.

How stand we in the present if called to give an occount of our stewardships? Unquestionably in the front rank, with those who have done their best in contributing to material progress.

Wisdom traditionally came from the East, because the Eastern civilizations are oldest in point of elapsed time. The Chrysanthemum is contemporaneous with Confucius, yet not until 1754 was it transported to European gardens. No one knows how or by whom it came to America, but the New England farmer of November 26, 1830 gives a list of varieties exhibited before the Massachusetts Horticultural Society on November 20th of that year. To-day the far Antipodes, Australia and New Zealand, are contributing in no small measure to the great advancement of the flower so that in its present status it is the most cosmopolitan of all the flowers we grow, and the whole world pays tribute to its worth.

We seek no evidence to justify or explain its present widespread popularity, the fact is so plainly apparent. From Canada to the Gulf of Mexico, from the Atlantic States to those on the Pacific shores more floral exhibitions are held in Chrysanthemum time than at any other time of the year, truly a most extensive and comprehensive manifestation of actual vital interest in this particular flower.

It follows, therefore, that Chrysanthemum exhibitions have been a great factor in enhancing the interest in the flower, and the Chrysanthemum as grown for exhibition has met with general approbation. In the exhibition arena the large flowered types predominate and, though sometimes we see them subjected to ridicule and designated as ugly by reason of their size the consensus of general public opinion is favorable. The crowds will be found congregated around the largest flowers. It will be hard to sustain the dictum that beauty diminishes inversely in proportion to size and that the acme of perfection exists in a flower five inches in diameter of a variety that can be grown to a greater perfection in larger dimensions. Our exhibitions more than this, too, in that they present to us and foster continued effort to the farther development of the flower along the lines of its inherent variability.

For purposes of comparison let us look at the Chrysanthemum from a commercial standpoint, and the vested interests in this respect are something considerable. Commercial adaptability, however, dominates the situation and the limitations improved thereby are repressive. I might almost say suppressive in that they would eliminate the loose graceful and very artistic types of flower, whose only apparent fault is that they cannot withstand rough usage. The globular, short petalled type of Chrysanthemum, best adapted to commercial use, represents but a small part, and obviously fails to satisfy those who are familiar with the varied forms and types of the family as a whole. We see them in the exhibitions, and we need them to grow for our own personal pleasure at home. Of one thing I am assured, Chrysanthemum exhibitions have, within the past few years, materially benefited Chrysanthemum culture by reason of their setting a high standard of excellence. Hundreds of small growers, heretofore satisfied with their product, have emulated the success of others with gratifying results.

The varied details of Chrysanthemum culture that culminate in these great exhibition flowers are matters of common knowledge or of easy attainment to those seeking them. I refrain from addressing you at wearisome length, as it would be tedious telling you all that must be done, and when, why and how from the time we take a cutting in February or March till we see the object of our efforts in the perfect flower in November. Do not think, however, there are secret arts and practices I do not wish to reveal. The opposite is true, and, if you will pardon a personal reference, I will tell you that whatever success has crowned my efforts in Chrysanthemum culture, all of the most desirable methods to pursue, I have recently put into book form, at a moderate cost, that further repetition is needless.

The culture of large exhibition flowers, however, is only a part of the subject. Can you name another flower of such divergent character as the Chrysanthemum. Some of these same varieties that command our admiration, when grown to a single stem, with one flower, can also be made to produce from 300 to 500 per plant. Exponents of this method of culture are not numerous, but the growing of specimen plants is an art in itself worthy of more general extension. In this, by a totally different method of procedure, by continuous pinching of the growing shoots, we induce a tremendous branch growth which, in due season, attains to a flowering stage with a resultant plant of the greatest decorative value.

Tastes differ, but in some form or other the Chrysanthemum is able to gratify them all. There are those that still adhere to their first Chrysanthemum love, and find their fullest satisfaction in the small-flowered, hardy or pompous types. These, too, have an ancient history, and those we admire to-day, a long and distinguished lineage to justify their being. We read that the year 1846 in Europe marked the commencement of a new Chrysanthemum era, for at that time Robert Fortune brought from China two small-flowered Chrysanthemums called the "Chusan Daisy," and all the pompous are practically literal descendants from these. They are growing in numbers and in popularity, and deservedly so. Their hardiness and easiness of culture commend them to all who have gardens and, especially, in Southern latitudes, where their beauty is less likely to be marred or cut off by early frosts.

At last, too, some attention is to be given to the beautiful single-flowered types which, though popular in Europe, have been most unaccountably neglected here. Some of them are here before you and, more fittingly than words can utter, express their own sentiments of graceful beauty.

REPORT OF COMMITTEE ON RESOLUTIONS.

The Horticultural Society of the State of Maryland wishes to recognize in a spirit of gratefulness and richly-merited courtesy, the generous interest and the untiring assistance that has so materially promoted the success of its ninth Annual Meeting, and been conferred as follows, viz.:

The generosity of the Board of Control of the Fifth Regiment Armory for the use of their magnificent drill room has the hearty thanks of this Society.

To the Baltimore Refrigerating Company for its liberality and general kindness. The press of Baltimore city. Mayor Timanus for his kindly and friendly address of welcome. To Messrs. Perrine & Co. for many favors bestowed. This Society tenders its thanks to the several committees, especially that of Hall Decoration and Embellishment, and the Committee on Exhibits.

The Society entertains feelings of gratefulness and high appreciation to: President Duckham, of the National Chrysanthemum Society; Prof. S. A. Beach, Horticulturist of the Iowa Experiment Station; Mr. J. Otto Thilow, Secretary for H. A. Dreer & Co.; Mr. A. Herrington, Floral Park, N. J., for their able and instructive addresses, and to Prof. Symons, in making this meeting such a success; and this Society here registers its indebtedness and presents its thanks to the foregoing and all other agencies that have contributed their aid and favor to the furtherance of the success of this meeting.

Last, but by no means least, as a society, we feel complimented to a high degree by the friendly courtesy manifested in us by His Excellency, the Governor of the State, in honoring us with his presence, his cordial greeting, and encouraging counsel, for which we present our sincere thanks.

Respectfully submitted,

J. W. Kerr,
D. H. Hargett,
Committee.

WASHINGTON COUNTY.

Report of A. L. Towson, *Smithsburg.*

Ladies and Gentlemen:

Your Vice-President from Washington county begs leave to report that the season in this county, the past year, has not been exceedingly favorable to the production of fruit, owing primarily to the adverse weather conditions. Yet as a whole, however, we have fared much better than some of our fruit friends in other parts of the State. We had a fair crop of peaches but the wet weather in August caused them to rot very badly. The apple crop was very poor, but we were able to secure some nice specimens for exhibiting at this show. Small fruits were injured to some extent, but any one visiting the county at their time of ripening, would have realized that Washington county can produce as fine specimens of strawberries and dewberries as can be grown anywhere in Maryland. Our canteloups rival the Rockeford's from the West, and our raspberries and gooseberries are equal to those grown anywhere in the East. There seems to be more interest in the growing of fruit in this county to-day than ever before; people are beginning to realize the great possibilities of our mountain lands. Where timber was growing but a few years ago now you will find a nice peach or apple orchard planted out. Our honorable President of this Society is showing our people what can be done with our idle lands. He, I understand, is planting out over seven hundred acres of apples. Much of our mountain land, suitable for apples, can be bought for from twenty-five to fifty-five dollars per acre. At a much higher figure the land would be cheap, for it is of grand quality, with a good surface soil, and excellent subsoil. It produces well with good cultivation.

Again, those of our people who are now engaged in the production of fruit commercially, are giving more attention to their trees, by spraying every spring, to hold the San Jose scale in check; in fact, all of our progressive orchardists have no fear of this pest. They know that the lime-sulphur wash will control it, where the remedy is made and applied properly. They also spray their orchards with Bordeaux mixture with a view of producing good, clean fruit.

One insect pest which is giving us some trouble to control is the peach scale, or le canium. This is present in my peach orchard on a few trees, and I find that the lime-sulphur wash does not seem to control it effectively. Our State Entomologist is now conducting experiments with a view of securing a satisfactory remedy.

In conclusion, I am pleased to see more interest being manifested in our Society by the magnificent exhibit and large attendance, and I trust that our Society will continue to grow in importance and usefulness.

The Secretary then announced that the members participating in the banquet should now leave the Armory for the Eutaw House, where it would take place at 10 P. M.

President Cohill, after expressing appropriate remarks in connection with the successful meeting, adjourned the same *sine die*.

BANQUET.

About one hundred members participated in the banquet held at the Eutaw House after the evening session on Thursday. This being the first attempt of the Association of ending their meeting by a function of this character, it was particularly pleasing to the promoters to have so many take plates and attend, and to hear the consensus of opinion that it was enjoyed by all. We were particularly pleased to have the ladies present, and hope that more will be with us next year. There is no doubt but that such a function brings the members of the Society closer together. There were no set toasts, various guests being called upon by the toastmaster, Hon. Orlando Harrison, the newly-elected President.

TOAST OF GOVERNOR WARFIELD.

Mr. President, Ladies and Brother Horticulturists:

I say brothers advisedly because I was elected a member of this organization a year ago.

I am gratified to be here this evening. I think, however, that a mistake has been made in seating your guests at the banquet, and I am very much worried by it. I don't like the idea of having the ladies seated at that side table.

They ought to have the seats of honor at this head table. No gathering, in my opinion, is complete, unless the ladies are present and occupy the seats of honor.

I cannot tell you much about horticulture. If I attempted to talk on that theme I would be like the old darkey who stole a pig. When he reached home and finished dressing it ready for his breakfast, it was time to go to bed. His wife had gone to sleep, leaving the old fellow on his knees praying. She woke up about twelve o'clock and found Eph still praying, urged him to come to bed and asked him what he was praying for. He said: "Lebe me alone, Eliza Jane, and go to sleep." She woke up again about daybreak and found the old negro still praying. She again asked him why he still continued to pray, and he said: "You know, I have been trying to explain to the Lord how I got that pig. De more I do try to splain to him de more I gets mixed up. I cannot fool de Lord. I cannot splain it away to Him." So, my friends, I will not talk to you about how to raise chrysanthemums, roses, and flowers, because I would be like the old darkey—get very much mixed up.

I am very much interested in your work and the welfare of our farmers. At the last Legislature I recommended in my message that the State should build in Baltimore a State building, with a large exhibition room, in which our farmers could exhibit their products and hold their conventions. I have not given up that idea, and I want to ask your co-operation to create a sentiment throughout the State, so that your representatives in the next Legislature will understand that you want them to co-operate in carrying out those recommendations. I think the State of Maryland ought to have in Baltimore a substantial and attractive building, with a large exhibition room in which you can hold your meetings, exhibit your fruits and flowers, and where the State offices required to be in Baltimore can be located.

The State of Maryland is paying to-day in rents for offices for various departments enough money to pay the interest on an amount sufficient to erect such a building. Most of the States of the Union have in their leading cities agricultural museums. In such building could be a continuous exhibition of the products of the State. It would be a meeting place for the various State organizations which are looking after the agricultural interests of the State.

It would be a place where the immigration bureau and labor bureau could be located and where you could go to get your labor or sell your land. The farmers could have it as a meeting place for transacting business in Baltimore.

Maryland is a great State. My friend, Mr. Vincent, who has a world-wide reputation as the largest and the most successful grower of dahlias and geraniums in the world, told me that when he was in London he referred with great pride to the fact that he was from old Maryland.

Now, I think we all feel that Maryland is a splendid Commonwealth. I am very proud of the fact that I have succeeded in attracting the attention of the people of the United States to her history and to her productiveness and to her splendid climate.

Now I am not going to detain you by talking longer. I have already talked to you. The Mayor is here and wants to extend to you the keys of the city. He wants to tell you that you can have anything you want in Baltimore city, and that it matters not what you do, he will see that you are protected. His word will go a great way in this city, but don't forget one thing, that is, that the police or station house magistrates are appointed by me.

But you have all won my regard and esteem, and I am ready to stand by you. Some of you will need no police protection, because your wives are with you. I am sure those who wanted to have a good time and enjoy this occasion brought their wives with them. I have always contended that we do not amount to much in this life without the influence of a good wife.

I am very anxious to know, and I want this Association to get up statistics, as to the products of the horticulturists and florists of this State. I attended an entertainment the other night in which the assemblage was in a room as large as this and the walls were decorated by natural flowers. It was the most beautiful decorations I ever saw. It was estimated there were from $1,500 to $2,000 worth of beautiful flowers. It was a gratifying fact that those flowers were produced in the greenhouses of this State.

Now the demand for flowers is increasing, and you will find that the homes of the rich and the homes of the poor of this city are generally decorated on Sunday, at least, with flowers. It is a beautiful sight to go to our markets and see the good housewife buying the necessities of life, yet saving a little back with which to buy a flower to take to her home. You will then know that the home to which those flowers go is a home of refinement and a home of content.

You are doing a good work, and should feel proud of what you are accomplishing in the State.

I thank you for this opportunity you have given me of being with you this evening.

TOAST OF MAYOR TIMANUS.

Mr. Toastmaster, Ladies and Gentlemen:

The Governor said I would present the key of the city to you. This was done yesterday, and you are all here as our guests, the guests of the city, and the city is proud to have the citizens of the State here attending this convention.

The Governor certainly struck the keynote when he said you should erect a building, in order to have a permanent place for your exhibitions. I said yesterday that the city has now very nearly completed a place which it would very gladly put at you disposal at any time, but it would certainly be far better if the citizens of the State should come to Baltimore, secure a central location, and erect a building for this exclusive purpose. I want to say that if this movement is started I am sure the city of Baltimore will lend its aid in bringing about the desired result, and it is right and proper that we should. The Governor will tell you the State spends considerable money outside in maintaining offices where if it were put into a building it would be saving to those tax-payers of the State. I want to say right here that the State, in a very few months, will take over a building, or rather will be the renters from the city, for a nominal sum, of the old Fifth Maryland Regiment Armory, which is now being used for the night school of the Maryland Institute. The good Adjutant-General, appointed by the Governor of this State, has been in recent communication with me relative to this matter, and I am sure that the city, at the expiration of the lease held by the Maryland Institute, will turn it over to the Adjutant-General for the use of the troops of this State, in connection with the new Armory. The Adjutant-General has also been aiding the city in the good work of acquiring a lease from the United States Government for the dear spot of which we are all so proud—Fort McHenry—over which the flag of this Nation floats. We all have a very warm spot for the man who wrote the Star Spangled Banner, and the vicinity where this beautiful anthem was written shall not be desecrated by being turned into a cattle quarantine, but will be maintained as a park for the city and for the National Guard.

Now you have spoken of the rebuilding of the city of Baltimore. All of you have seen what has been accomplished, if you have had time to go through our new district, and we are still progressing and building the City Beautiful. This you can fully appreciate, as it is part of your business to make things beautiful. You train fruit to grow, and you study how to make it more beautiful, more attractive, as you do flowers and shrubbery. So is the municipality of Baltimore trying to map out plans whereby our city will become more beautiful, more attractive. We have in our parks places that are pleasing to the eye of the citizens and visitors who frequent them, and we are doing this under the tutelage of members of this Society. As I look down the aisle I see some of our good superintendents of parks, who I am sure are members of this Society, and who are lending their aid in making this meeting a success.

Now, I possibly am to blame for delaying the good things that are to come on this menu, because having another engagement to keep to-night, I asked the toastmaster if he would not call on the Governor first, because he is first in this State, and he is first to be heard from. The Governor very kindly said to me, no, Mr. Mayor, you speak first, but I said, no indeed, you must do that, not only because you come first, but because I feel I would get a little inspiration in listening to what you have to say. I thought I would get something to talk about, and I did, and am always glad to follow him in making a speech, because I can get valuable points from his utterances. He said the Police Department and magistrates are under him. That is absolutely true, but if an ordinance of the Mayor and City Council is broken I am the one that can remit the fine—not the Governor. If you break a law of the State, the Governor can remit the fine—not the Mayor. Then there is another point: The Governor has charge of this great Police Department, but the city of Baltimore pays the bill. But I want to say, as the chief executive of the city of Baltimore, that there has been, during my administration, a closer communion and a closer fellowship with this Board of Police Commissioners than I think has ever been known before in the history of Baltimore, and the Governor deserves credit for appointing the men who are at the head of this department, men who have the interests of the city of Baltimore at heart; and we are all working together for the common good of the city.

I thank you all for the privilege of having met and talked to you twice, and am now going to ask you to excuse me, so that I may go and talk to the alumni of the Baltimore City College, whose banquet is being held to-night.

TOAST OF HON. THOS. A. SMITH.

Mr. Toastmaster, Ladies and Gentlemen:

Our toastmaster, in his introduction, said something about sand, which I did not quite understand; however, we all know there come times in every man's life when he must have a little "sand in his craw."

I must class myself among the number referred to by the Governor as not having his wife with him; and while I agree with the Governor that the way to have a good time is to have your wife with you, yet it is said that there are exceptions to all rules, and if any of you have made this the exception for the purpose of having the so-called good time, I see nothing to hinder, since His Honor, the Mayor of Baltimore, has given you the keys of the city, and His Excellency, the Governor of the State, has intimated that his sympathies would be with you so far as protection is concerned.

Among the many fine exhibits of the State Horticultural Society at the Armory, of which the Governor spoke and praised, the apple seemed to especially catch his eye, and he did not forget to remember the children who were there, in a subsequent hope that they got some of that luscious and inviting fruit. Now I do not know whether the children did get any of the apples or not; but the Governor got one, and he knows how good those apples were, and I have no doubt it carried him back to the memory of his boyhood days, hence I believe he was most sincere when he expressed the wish.

I remember when I was a boy I attached a great deal of importance to apples. It was in the days when the boys on the farm did not wear the, now so-called, boiled shirt. They were made of "corn-colored" muslin then. This reminds me of a little incident that happened on the Eastern Shore, where a well-dressed young city lady jauntily entered a country store and, rushing up to the counter, said to the young man who was dispensing the dry goods, "Have you any corn-colored muslin?" The reply came politely but quickly from the young man, "Yes, Miss; which color do you wish, white or yellow corn?"

I know the boy who filled the bosom of his yellow corn shirt with apples, too hard and green to eat, and buried them in the sunny side of a straw stack to mellow. I tell you I have a great deal of sympathy for the boys when apple-time comes along, and if the pardoning power was vested in me, the boy could take considerable liberty with the apple without being badly hurt.

Now, Mr. Toastmaster, as I come from a body that takes great liberties in speech-making, I hope you will not be surprised at anything that I may say. The fact is that over in the House at Washington, at times, everything is talked about, with perfect freedom and impunity, except the subject under consideration. I do not, however, want to leave the apple yet; I know that this fruit is thought to have been the source of a great deal of temptation in days gone by. It is said to have created trouble in the Garden of Eden. Temptations are still abroad in the land, and I wish to interpose a short recipe for temptation as given by an acquaintance. I can not guarantee the recipe, for I have never tried it, so I give it to you for whatever it may be worth. It was this: "Just as soon as you are tempted, yield, and it is no longer a temptation."

Now, getting back to the Eastern Shore again, or the Garden of Eden (the terms being synonymous), the place where our friend, Mayor Harrison and many of you live, and where my home is also. You, no doubt, know all about it. I understand that the Baltimore city people and Western Shore folks many years ago, dubbed the Eastern Shore "The Garden of Eden," and that they have felt a little uneasy many times since for fear that they had properly named it. If they would ride around for a day or two through Mayor Harrison great nurseries, and the various fruit farms of the Shore during fruit season, they might easily learn that it is possible to "Go much farther" in looking for pleasant and profitable locations "And do worse." Still, we have temptations down there. They seem to be everywhere in some form or other, and are as numerous as the stars in the heavens.

From what I hear, and from reported frank acknowledgments said to have been recently made down on the Shore and elsewhere relative thereto, I fear that we are losing caste with our Baltimore and Western Shore friends.

A friend of mine said to me only a few days ago—it was before the election—"Some one is going to have some qualms after the election, I fear." He said: "That reminds me of two kings; David and Solomon each led varied lives, but later on in life they both had qualms, and one wrote the Proverbs and the other wrote Psalms."

I do not know whether there are any qualms down on the Eastern Shore or not; but I want to say, if there are, so far as I am concerned, if they shall prove to be productive of such good and beneficent results as followed the qualms of Kings David and Solomon, I shall not only be satisfied but will feel that I am a hero.

Now, Mr. Toastmaster, ladies and gentlemen of the Maryland Horticultural Society, I congratulate you upon the splendid exhibition of the fine products of this great and grand old Commonwealth and the successful mingling and harmonizing of the varied interests pertaining thereto and bespeak for your efforts the continued growth and prosperity of the State along these and many other desirable lines.

TOAST OF PRESIDENT R. W. SILVESTER.

Mr. Toastmaster, Ladies and Gentlemen:

You have done me the greatest honor of my life in dubbing me the "Boy Educator for the Farm." I know of no honor equal to this proud distinction. A distinction arising from the importance of the farm to both the Nation and the State.

"The Boy Educator of the Farm"—In this renaissance of agricultural development, which is to-day spreading broadcast over our whole country, the boy educator cannot be without some significance in the minds and in the hearts of the people of this great country of ours. The boy upon the farm, if he takes the stand which the significance of his occupation means to the Nation, could have wished for him no prouder distinction, for never has there been a time in the history of the world when the boy on the farm needed that special education to fit him to take his place in the agricultural development of the day, more than he does to-day. There was a time in the history of the world when the boy who was to be the lawyer, the doctor, or the preacher, was a tax upon the father and the mother and the other children, in order that they might be equipped for the tasks which they were to perform. If the boy who was to remain on the farm had learned enough to hitch himself at one end of the plow and the mule at the other, his education was complete. He was the producer of the "Reubens" and the "Hayseeds" of which we still hear so much. Even in that field he was not so verdant as our city brothers in some instances, particularly the young gentlemen who go to the country to find their chief pleasure in teasing "Uncle Reuben." It is told, and I doubt not that it is perfectly true, that two of these young men once went to the country and engaged board at the home of an "Uncle Reuben," and the contract was they were to have fried chicken three times a day and the grey mare was to be used for an evening's ride. They lived up to the contract, and when the grey mare was hitched up, "Uncle Reuben" advised them of the fact that "This grey mare was all right provided the rein did not get under her tail." The boys took notice of what he said and started for the drive. Upon returning home a cloud came up, the rain commenced to fall and one of the boys got out and was told to hold an umbrella over the mare's hips. And they walked back very fast to keep the rain from getting under her tail. "Uncle Reuben" met them at the gate and wanted to know what was the matter. "Why," said they, "did you not tell us that that mare was all right if the rain did not get under her tail?" "Yes, I did, but I did not mean the rain from Heaven, but I meant the rein which you are handling. You are so verdant that I would like to put you in the fence corner for the cow to feed on."

Now, gentlemen, if you can match that verdancy by any youth from the country, I would like to know of it. The country boy is coming to his own, and you bear in mind the fact that the great tide of finance is turned from European countries to our own by these same farm boys that are producing an excess, after feeding eighty millions of people, and doing it on the lines of the new agriculture.

There can be no place in the world equal to the country home, when it is presided over by one of the country damsels, who is taught to keep that home as she should, in accordance with the principles of Domestic Science. That home, worked by the father himself, upon the basis of those scientific principles that lie at the very root of successful agriculture—God speed the day when that consideration which is properly due the men who are producing this great result may be attained.

Baltimore city is indebted to the rural sections of Maryland. Baltimore city probably would never have attained the proud distinction which she has to-day had it not been that the twenty-three counties of the State came to her assistance and furnished the means to build the Chesapeake and Ohio canal, and thus bring the riches of the Western farmer through the now metropolitan city of Baltimore for shipping across the ocean to feed the multitude of Europeans who annually find themselves in need of food products. It was this instrumentality that transformed the fishing village on the banks of the Patapsco to the Baltimore of to-day.

Baltimore city now, in her great expansion and her great accumulations of wealth, in dealing with the counties, must recognize this initial step in her development. There is not an "Uncle Reuben" here in his store clothes, who is not proud of the pluck and the spirit of Baltimore. Men and women who met with courage one of the most appalling disasters of which modern times knows, and the glory in which this spirit has been made manifest in building the New Baltimore. We trust that it will attain such a supremacy as every patriot of Maryland wishes for it, and we believe that it will.

We ask the New Baltimore, in its magnificent system of docking improvements, to provide for the Horticulturists; to provide for the Cereal Producers, so that there can be some central point around which we can gather and dispose of our products to those who desire them. There is no reason why this should not be the case. We were assured by the committee who had charge that such provision would be made. We confidently look for it. What a medley it is to go down on Light street to-day upon the receipt of our horticultural products from every section of the State! Why should there not be centres, as in New York and Philadelphia—some central point where farmers can realize that their products will be landed, and there on those wharves disposed of, at such prices as Baltimore is willing to pay as a fair return for the character of products that are there turned out. Baltimore is sustained in its life by the products of the soil and its life is renewed and invigorated by the influx of country boys from time to time.

It would not do for the gentlemen to educate all the country boys for the farm. Baltimore would suffer. The tide of new life that comes up from the country to the cities to-day is what makes the magnificent manhood which is found here in every department of urban life. Be careful how you country "Reubens" get into trouble after this banquet is over! There is a contention for supremacy in the extension of leniency here between the Governor and the Mayor. We trust that no hallucination which you may entertain at this time will eventuate in a trouble that will call for the interference of either the good Governor or the splendid Mayor of Baltimore city.

I trust that all may be well with you when you return to the bosoms of your families and that you will not have to keep any secrets from that nineteen-twentieths of every man's life, in the person of his wife.

In conclusion, permit me, Mr. Toastmaster, to add that it is a remarkable coincident that His Excellency, who has honored this occasion with his presence, was a country-bred boy. The ties of his youth are still strong. The freshly turned earth, and the newly mown hay, are a joy to the nerves of his nostrils. His ears are gladdened by the sounds of farm life; his heart is warmed by the open fireside and his whole being is filled with a deep and abiding interest in every concern of country life. Who questions the fact that keeping close to the soil has been the principal factor which has given him the preeminence he enjoys to-day in the minds and hearts of the people of Maryland, whom he delights to serve.

England's stability in the past, her strength in the present and the virile hope for the future is traceable to the fact that one branch of her parliament is composed of men who are close to the soil. They stand for rural life in all that it means. A country cannot remain great which fails to develop and maintain a strong and healthy rural condition.

Our honored Mayor of Baltimore city owes his extraordinary constitution of body and fertility of mind to the foundation laid for sturdy manhood in his early life amidst rural surroundings. The position which he holds in the public eye to-day can be credited to country life. In his shadow several city-bred men may stand and not be uncomfortably crowded.

Then, Mr. Toastmaster, let us, in the presence of these two magnificent specimens of country life—one the Chief Executive of the State, and the other the Mayor of our metropolitan city, rise and with one accord yield the salutation of "All Hail" to these honored guests who, in public stations, have won the plaudit of "Well done" from a constituency capable of discerning faithful service.

TOAST OF HON. EDWIN A. SEIDWITZ.

Mr. Toastmaster, Ladies and Gentlemen:

There is an old German saying, "Modesty is an ornament, but there is more progress without it." I believe that there is one quality that nearly every grower of plants, shrubs or flowers has, and also every tiller of the soil, and that is, too much modesty. I believe that it is this qualification that makes the man from the country stand back. There is no reason that he should. A man that communes with Nature, as he does, should be the most noble-hearted, the most honest creature that God creates. We as florists, we as growers of flowers of Maryland, have been too modest, too modest, because we have achieved more in our line in the State of Maryland in the last fifty years than any other State in the United States, without allowing the world to hear from us. And, with your permission, I would like to go back into history. A few years ago I was turning in the pages of the old *Maryland Farmer*, which at that time was the mouthpiece of the Maryland Horticultural Society, which was in existence for over fifty years, and some of the grandest shows ever held in the United States were held under the auspices of that organization right here in the city of Baltimore. I found recorded upon its pages some of Maryland's achievements, and I want to say to you, when we look at good roses like Baltimore Belle and Cornelia Cook, introduced before 1850, that are to-day yet standard varieties, it shows, to my mind, conclusively that Maryland produces something which has a lasting and beneficial influence upon the world. Go along in modern times. The modesty of a John Cook, a gentleman, has prevented him from being compared with Luther Burbank, of California. I have heard Mr. Patrick O'Mara say of John Cook, of Baltimore city, that he has done every bit as much as Luther Burbank ever dared to. Again, taking the chrysanthemum. Nearly every chrysanthemum of the early varieties, at least, worth anything at all, was produced by Maryland growers, and so, continuing along many lines, we find the same results. There is one point which I want to find with the Marylanders, those people to whom we look for succor and financial aid. We need money, but it seems that the Marylanders do not appreciate Maryland. There is a spirit among, not only these men, but lots of people, that we have not anything good in the State of Maryland; they think they have to go outside of the State to get things of value. But look in the corner on the Eastern Shore at our friend, the Harrison nursery. Look at the dahlia farms of Baltimore county at Whitemarsh, and then crawl up northwest to our friend Webber, and I defy any one to say that they are not the leaders in their specific lines. Why should there be need to leave the State? I am doing a little boasting to-night for the State of Maryland, and I only hope that those in authority will do likewise, and before they go out from the State of Maryland that they will look in every corner to find out if we have not got it here, before condemning their own State. Perchance the grower, too, is at fault. If it is, he, for lack of push and his extreme modesty, does not let the world know. It matters not how good our products are, we must make the world acquainted with them.

There are many things that go to make the successful man, the successful merchant and the man who gets results, but no characteristic is more important than the one of sizing up the situation and acting accordingly. To illustrate:

Three boys were looking into John Wanamaker's window one day at some bicycles. Mr. Wanamaker was just passing, he became interested and said to the boys: "If you will answer a question which I shall ask you, I will make you a present of one of those wheels. "Whom should we love most?" The first boy spoke up quickly and replied, "Mother." "Good answer," said he, "but not correct." "Father," the second boy stated. "Good answer, too," said Mr. Wanamaker, "but not right." The third boy, in a very solemn way said, "Jesus." "Ah," said Mr. Wanamaker, "that is the answer, and you shall have the wheel. What is your name, I did not catch it?" The boy replied with a quiet smile," Moses Rosenstine."

TOAST OF HON. J. S. HARRIS.

Mr. Toastmaster, Ladies and Gentlemen:

After listening to such eloquent speeches as I have listened to to-night from men speaking in a public way, from the Governor of Maryland, the Mayor of the city of Baltimore, from the president of a college, from a Congressman to the president of a floricultural association, all of whom are gifted men who are experienced in speaking publicly, I feel perfectly out of place to get up before an audience of this kind to say anything at all. But, Mr. Toastmaster, I will lay aside some little modesty and say a few words.

Peaches and apples—peaches, the queen of all fruit, the finest fruit that grows under the sun; apples, the king of all fruits. I feel proud that I have been associated all my life with this queen and king. My whole life-work has been spent in the production of these and other fruits, but these have been and are now my leading fruits. And I feel proud of the fact that as a plain clod-hopper I have been in Kent county all my life, and I will assure you that with the assistance of this Society and kindred societies of the State of Maryland this queen and king shall rule to the end of benefiting every man in the city of Baltimore and the State of Maryland.

He tells you that I came from a county that has made Maryland famous for peaches. It is a fact. About 1870 to 1880 the county that I have the honor of being a citizen of was the leading county of the State of Maryland in the production of peaches, not only in quantity, but we had the reputation of producing the finest peaches and of the finest flavor that went to our nearby markets. In those days our county had the reputation of producing the finest peaches that went to Philadelphia and the New York markets.

I will make a remark in regard to size that no doubt many of you will stare at. There was a man from Philadelphia who came down to my immediate neighborhood in 1876, a season when peaches were not very abundant, but the season had been such as to produce very large fruit. We had at that time the Susquehanna, that grew larger than any other peach at that time and larger than any peach I have ever known. The gentleman he was visiting told him to go into the orchard and make his choice of any of the peaches he found and of as many peaches as he wanted. The gentleman who owned the orchard heard nothing further from it until three or four days afterward he received a newspaper from Philadelphia, in which was a statement that that gentleman had brought up from Kent county some peaches, and among them was one measuring 16 inches in circumference. Now I cannot say how true that was, as I did not see it. But it is a fact that we can produce not only fine, large, and beautiful and luscious peaches, but on the tables at Armory Hall many of you noted an apple of very fine size. I will state that a few years ago when I was president of this Society, there was a gentleman, a large apple-grower of Ohio, who thought he had a monster in the shape of an apple. He picked and packed in a little box, surrounded by cotton, and sent to me by express, the largest apple he could find, and it measured 11¾ inches in circumference. You don't often see an apple of that size. That apple on the table measured 13¼ inches in circumference. It is from Kent county. That is not all. It was the evening the school children came in. I was standing near that table, and in the party—oh, there were thousands of them there—in the party was a bevy of large school girls. As they passed by that large apple it was so beautiful, so nicely colored and so perfect in shape that they pointed it out and said, this is not an apple, this is wax. I am proud of the fact that I am from a county that is capable of producing such fruits. I am proud to be a Marylander as well as to be a citizen of the Eastern Shore of Maryland, which is the garden of the whole State of Maryland.

TOAST OF RICHARD VINCENT, JR.

Ladies and Gentlemen of the Horticultural Society:

I promised to be very brief and say but a very few words. I would like to say considerable. This is one of the happiest moments of my life, and the reason of that is of the co-operation that is coming to this Association. To-day there is more co-operation in the air in connection with this Society than ever before. I have been using the probe quietly, like some of our wives use it on us when they want to gain an end. Florists and gardeners of Baltimore, we have accomplished our object to-day in getting our Association represented in the Horticultural Society of Maryland.

Another point I wish to make. There has been considerable said about me this evening which I would rather would not have been said. The Governor spoke of me telling a man over in London of our grand old Maryland. I told this man that we are movers in the State of Maryland, and that if you folks of the British Islands don't get a move on you we Marylanders will come over and take possession of your little island and annex it to Maryland. He said: "Don't you know it would take considerable grit to get this island?" "Well," said I, "don't you forget we Marylanders have got it." Man's environments are just what he chooses to make them.

The Governor relating that story about the colored man and the hog brought a point to my mind. I don't know how that man managed to get home with that hog without raising a howl. You know a pig will set up an awful squeal when he is being caught by leg, ear, or tail. But if you just turn him over on his back and he can see heaven he is so surprised with what he sees that he stops his squealing. And I guess that colored man was smart. He got him on his back and dragged him home. He let him see heaven all the way home. What we want to do right through this good old State of ours is to get more of the tillers of the soil that have got their noses down like the hog and cannot get them out, to try and turn them on their backs and show them what this Association is doing, and they will prize it as the fairest view of heaven that ever came into their lives. Brothers and sisters, there is no place on this wide globe that is more worthy of living in than the State of Maryland is.

I want to give the Governor one more point in my own life. Please don't call it bragging. The toastmaster said "the Dahlia King." Some of you know it. In a conversation with the friend that sits on the right of the Governor and another friend, they said to me "Why don't you go up on top with your flowers; there are lots of them down here." We went up on top with the geraniums, as well as the dahlias, and to-day we are issuing the finest catalog on geraniums the world ever saw, and I will defy any one to beat it. Get a copy and you will see it is a work of art. That is what Maryland is doing through me. Each of you aim to do your part, brothers, and you will say, each of you, Maryland, my Maryland, forever.

TOAST OF PROF. W. G. JOHNSON.

Mr. Toastmaster, Fellow-Members, Ladies and Gentlemen:

I assure you it is a great pleasure for me as a life-member of this Association, to be with you again on this our anniversary, and, especially on this festive occasion. I am not going to delay you very long, because I promised my good wife I would return to New York Friday morning. It is now Friday morning. I have violated my promise already, because I promised her I would leave Baltimore Thursday night. I am anxious to get back so I can tell her what a good time I have had. She will be anxious to hear and know about this great banquet, rounding up so fittingly, this successful meeting of the Maryland State Horticultural Society, with which I entered heart and soul years ago in laying the foundation.

It has been five years since I left you. Yet during those five years there has hardly been a single day that my thoughts have not been turned back to Maryland. I can say with Brother Vincent and all of you, "My Maryland." I have a claim upon Maryland through my ancestors, of which I am justly proud. My great-grandfather, the early part of the last century, was located in Charles county, at Port Tobacco. From that place he went by wagon overland into Central Ohio. For that reason and for my own official connection in the State, working with you and by your side, I am proud of Maryland. I have been in a position for several years to watch your progress. I can justly congratulate you most heartily upon the improvements you have made, not only in the character of the exhibits such as I saw in the hall to-day, I should have said yesterday, but on the character of the social features you have here developed. To get together here in this brotherly and friendly way is a most appropriate climax to your annual convention.

It is gratifying to me, when I see here around this festive board your Chief Executive, the Honorable Edwin Warfield, a man whose heart and soul, as he has expressed it to us on several occasions, is centered in Nature and all those things that go to make life worth living and beautiful. We have had introduced to us the Mayor of Greater Baltimore, Mr. Timanus, who himself is a farm product. We have heard from the tillers of the soil. We have a word from those who are responsible for the education of the farmers' boys and girls.

Indeed, it is doubly gratifying to see these interests united as they never were before, with the Chief Executive here leading us for a better horticultural and agricultural Maryland. Five years ago, or at the time this Society was formed, we did not have this co-operation and liberty. There was only a handful of earnest, persistent, energetic workers who knew and foresaw in those days what we have here enjoyed to-night. Those men, the pioneers and founders, worked earnestly and co-operated one with the other. Some have completed their work faithfully and passed on to their better reward, The grand work they began is still going on and will continue as new members take their places in the ranks. I learned to-day that since 1892, or in fourteen years, that there has been built up at the Agricultural College, in equipment and buildings, the equivalent of $134,000. In those buildings are now congregated 195 boys from the farms of this State, a very small number comparatively speaking, yet I foresee the influence of those boys, even though there may be only 50 or 40 per cent of them returned to the farms and directly engaged in agricultural pursuits. A large percentage of them will have an influence which will reach out and be of great benefit to this dear old State in the development of her future agricultural and horticultural possibilities.

To me, therefore, it is a pleasure to come back and see this improvement and steady advancement. Perhaps I have seen it more clearly than you who have been closely associated with it during these years of progress. I have watched your development and I have kept my finger on the Chief Executive and his doings at Annapolis. I have found your present Governor, Mr. Warfield, a friend of the farmer. It is encouraging when we look back and review the work of those who occupied the place in the Executive Mansion previous to Governor Warfield. We found in Governor John Walter Smith, a man whose heart was sympathetic, an executive whose whole soul turned toward the uplifting of agriculture in the old Maryland State.

When I glance still farther backward into another administration, especially, one with which I was, perhaps, more closely associated than any other, that of our late Governor Lloyd Lowndes. I find there a man whose every fiber responded nobly and liberally to the knocking of the agricultural and horticultural interests when they appeared at that great door at the State Capitol. They were flung wide open to us. It was through his encouragement and hearty co-operation, more than that of any other man, that we owe to-day the establishment of the State Horticultural Department. Governor Lowndes was a true friend of agriculture and his successors in office have nobly carried forward the work he began. I dare say that with the influences that are now at work in the State for the betterment of the agricultural and horticultural interests, whoever may in the future occupy that dignified and noble position as Chief Executive, you will find in him this same responsive feeling that we found in the late Governor Lowndes, in Governor Smith, and in our good friend, as President Harrison said, "The Whole Governor," Governor Warfield.

I am not going to detain you much longer, because I must catch a train in a short time to carry me back to New York, to keep that promise. I want to say before taking my seat that I am certain before we meet again in annual convention, there will be an opportunity of recording still greater progress and advancement due to the individuals on the farm, at the College and at the Station, than we have had during the past year. We are on the eve of a greater and better horticulture. This has been impressed upon me more thoroughly since I have been here than perhaps on any other occasion. We are in the midst of a sort of evolutionary mix-up in agricultural conditions. We heard a most excellent paper this morning, I should have said yesterday, that in some sections, particularly those around Baltimore, Philadelphia, and New York, the farmers who concentrated along certain lines are still concentrating their efforts more generally on smaller areas and under glass for the production of winter vegetables.

The same evolution is taking place in other sections. On the Eastern Shore our friend, and esteemed ex-president, James S. Harris, has worked out, along evolutionary lines, some of those things himself by hard, practical experience. The peach, which was the queen of the Eastern Shore and of the Chesapeake Peninsula, can still remain the queen among fruits; but there have been other sections which have been developed since that time. For that reason, the horticultural workers of the Eastern Shore are turning their attention to other lines, and among these the apple is prominent. The tomato has become a factor to be reckoned with. Factories for canning vegetables and fruits have sprung up. As a consequence and a logical sequence of evolution there has developed other branches of horticultural industry. With the development of the apple and other industries along the Chesapeake Peninsula, we realize the importance of those possibilities that have lain dormant since the Creator cut out that far-famed peninsula.

Some of the finest specimens of fruit I have seen in many a day are in the exhibit on the tables in the great Armory. They are an index of your progress. On that table I saw the products which bespeak the character of work that the men who are connected with the State Horticultural Department are doing for you as individuals. To me it is pleasing to note these evolutionary changes and face the very men who are capable of grasping these problems as they confront them.

Our friend, the Governor, has referred to the ladies. I am sorry, indeed, that these occasions do not bring out a larger number of ladies. If we progress as we should, we must have more of them at these meetings. They should take part in our programs. We need more ladies at these banquets, if they are to continue from year to year, and I hope they will. There is a social atmosphere here, which we cannot get in any other way. Mingling as we do in the exhibition hall and listening to the programs, the real social element is lost. Every one who has a wife should see to it and bring her next year. If you are not so fortunate be sure and get one before the annual meeting next year and bring her along.

In conclusion, I wish you Godspeed until we meet again. This reminds me of a story of a fruit-grower who was married. The younger members must not let this story prejudice them or deter them in their plans for the banquet next year. This man succeeded in growing most luscious fruits. He developed a home, but had a temper of his own. The home features of his life were not fully recorded. It was said, however, that it was not "peace on earth." There had been ripples now and then, and the neighbors a mile away heard the louder noises. The man of the house finally turned in his checks; in other words, he died. In due time a tombstone was erected by his wife, upon which she placed the following inscription: "Here lies Ben Davis, my beloved husband, in peaceful slumber, until we meet again."

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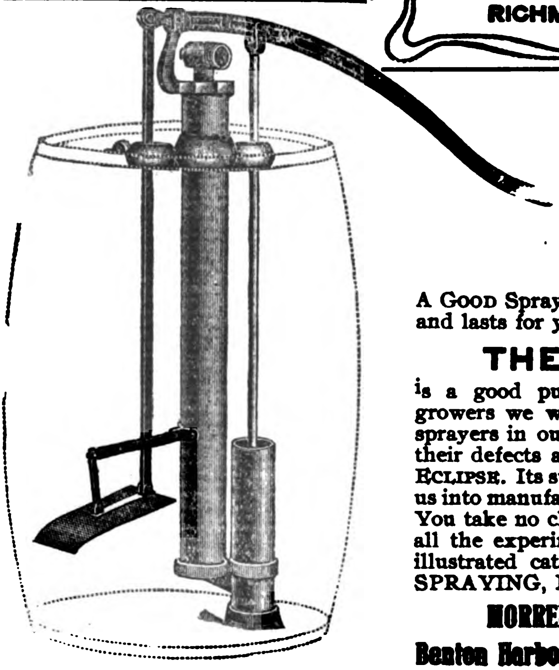

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